

# 17<sup>th</sup> Century Theory of Substance with Special Reference to Descartes, Spinoza and Leibniz.

*A Thesis Submitted to the University of Hyderabad  
in Partial Fulfillment of the Requirements for the Award of the Degree of*

Doctor of Philosophy

In  
Philosophy

By

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December-2020



## DECLARATION

I, Ramesh Dheeravath, hereby declare that this thesis titled **“17<sup>th</sup> Century Theory of Substance with Special Reference to Descartes, Spinoza and Leibniz.”** submitted under the guidance and supervision of Dr. B. Ananda Sagar is my bonafide research work and is free from plagiarism. I also declare that it has not been submitted in full or in part to this university or any other university or institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga/INFLIBNET.

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### I. PRESENTATIONS

1. **Ramesh Dheeravath** “*Descartes Mind-Body Problem: An Understanding of Intellect*” Paper presentation in the National seminar on ‘*Mind and Memory: An Enquiry into the Nature of Cognition*’ sponsored by the UGC-SAP-DSA-III held on 20<sup>th</sup> to 22<sup>nd</sup> March 2017 at Department of Philosophy, School of Humanities, University of Hyderabad, Hyderabad, Telangana, India.
2. **Ramesh Dheeravath** “*17<sup>th</sup> Century theory of Substance: A critical study*” Paper presentation in the two-day national seminar on ‘*Onto Perfection*’ organized by Indian Council of Philosophical Research and SAMVAD held in the Udasina Karshni Ashram, Raman Reti, Gokul, Mathura on 11<sup>th</sup> and 12<sup>th</sup> November 2018.

3. **Ramesh Dheeravath** “*17<sup>th</sup> Century theories of Substance; those of Descartes, Spinoza and Leibniz*” Paper presentation in the two-day national seminar on *Philosophy: The Eternal Awakener of Humanity* held in the Department of Philosophy, Osmania University, on 28<sup>th</sup> and 29<sup>th</sup> March 2018, at PGRRCDE, O.U., Hyderabad, Telangana, India.
  
4. **Ramesh Dheeravath** “*On Truth and Non-violence: Dr. B.R. Ambedkar, Gandhi, Frantz Fanon*” Paper presentation in the 4<sup>th</sup> Asian African Philosophy Conference held on 7<sup>th</sup> to 8<sup>th</sup> March 2020 at North-Eastern Hills University, Shillong, Meghalaya, India.
  
5. **Ramesh Dheeravath** “*Truth, Method and Correspondence in Spinoza and Leibniz*” Paper presentation in the 94<sup>th</sup> session of the Indian philosophical congress held on 9<sup>th</sup> to 11<sup>th</sup> March 2020 at North-Eastern Hills University, Shillong, Meghalaya, India.

## II. PUBLICATION

1. **Ramesh Dheeravath** “The Idea of Absolute Substance: Why the Concept of Substance cannot be rejected in Metaphysics” *International Journal of Creative Research Thoughts* (IJCRT) Volume 6, Issue 2, (April 2018). E ISSN 2320-2882, PRINT ISSN 2320-2882.
  
2. **Ramesh Dheeravath.** “Metaphysics of Substance: the Unknown and Unknowable—A Kant’s Critique” *Journal of Emerging Technologies and Innovative Research* (JETIR) Volume 5, Issue 7, (July-2018). E ISSN 2349-5162, PRINT ISSN 2349-5162.

Further, the student has passed the following courses towards fulfillment of coursework requirement for Ph.D.

| S.No.                   | Course Code | Name of the Course     | Credit | Pass/Fail |
|-------------------------|-------------|------------------------|--------|-----------|
| <b>PH.D-I Semester</b>  |             |                        |        |           |
| 1.                      | PH-801      | Topics in Metaphysics  | 4      | PASS      |
| 2.                      | PH-802      | Topics in Epistemology | 4      | PASS      |
| <b>PH.D-II Semester</b> |             |                        |        |           |
| 3.                      | PH-851      | Topics in Ethics       | 4      | PASS      |
| 4.                      | PH-852      | Thesis Related Study   | 4      | PASS      |

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*Dedicated To*

*PARENTS AND TEACHERS OF MY LIFE.*

## ACKNOWLEDGEMENT

*Without expressing our heartfelt gratitude to the people, departments, institutions, and financial supporters who play a key role in completing our work/project as well as in honing our skills in various fields, finishing the program is morally vicious. Therefore, it is our duty to express our sincere gratitude.*

*First of all, I would like to express my sincere gratitude to my supervisor Dr. B. Ananda Sagar. His wholehearted encouragement whenever I am in low times and valuable and timely suggestions regarding my chosen problem, throughout my PhD life, make me to produce this work my level best. One thing I can say is that he does not merely play a supervisor role but also a parent role which, I believe, is the best quality of a teacher. His suggestions regarding life are more valuable and practicable. I know, expressing simple thanks is not sufficient since his help is beyond the limits of words.*

*Also, my special thanks to Professor Prof. A. Raghuramaraju who suggested and inspired me to choose one of the core areas in philosophy when I had approached him. His moral support works like a strong foundation and made me to take a dare decision.*

*And, my genuine thanks to Dr. Vensa tinyi and Dr. Kavita Chouhan as my Co-Supervisors of Research, they made me to read, write and think academic philosophy their special care and training helped a lot in my PhD program. And also, I thank to my doctoral committee members, Professor Raghuramaraju and Dr. Venusa Tinyi and Dr. Kavitha Chauhan. They helped me in every Doctoral Committee meeting to go in the right direction.*

*In particular, Basu's guidelines honed my thought process regarding my thesis problem. Professor C. A. Tomy and Laxmi Narayan Lenka's simplified explanations of critical paragraphs regarding my thesis problem helped me to write my thesis in a more efficient manner, my heartfelt gratitude to them. And my sincere thanks to Professor Raghuramaraju and Dr. Abhijit Jhoshi for their valuable suggestions.*

*Also, my humble thanks to Professor R.C. Pradhan for his precious suggestions, from the beginning to end, which helped me a lot in developing my thesis structure and also to make corrections in an appropriative way.*

*It is not possible to complete my thesis without the help of the office staff of our department who have not only done their duty but many times helped me beyond the call of their duty, in particular, Krishna uncle and Shashi madam, my sincere thanks to them.*

*I have to say thanks to the scholars' room which I feel my second home and where I completed my major part of the thesis. Thanks to the entire department faculty people for providing this sort of full-fledged facility to scholars and for their friendly nature with the students.*

*Also, my sincere thanks to the university library (IGML) and the people who showed a kind nature towards me whenever I use to go there.*

*This acknowledgement page never fulfilled if I would not acknowledge my co-scholars' role in my research life. Some of the scholars' help in various fields I should not forget. In particular, Don, Raghavan, Vanlal, Rajiba, Utsav, Vanlal, Ragesh, Archana, Devonath, Shirish, Anjaneyulu, Jamir, Bijoy Narayan, Chaitanya, Rekha, Selina Das, Pooja, Sumit, Manoj, Justrus, Iman, Jamamani, Anantu, Joseph helped me to improve my skills in different areas and also their role is unforgettable in balancing my different emotions. My lovely thanks to all of them.*

*Also, I have to say my friendly thanks to Matta Srinivas, Patturi balaji, Dontha Prashanth, Munna, seshu, kalva swamy, Uday Kumar, Raju, Rupa, Duraimaran, Deepak, Ani Nibisha, Ayindrilla Dutta, Devparna and ASA Family who made my research life more pleasurable. My journey with them is unforgettable. Their specific role, just like the family members, in different stages of my research and personal life is not less significant.*

*Also, I have to express my gratitude to my parents and other family members who encouraged me to complete my PhD program.*

*Last but not least, my wholehearted thanks to UGC for providing NFST-JRF fellowship, which gave me great financial support to finish my thesis without any obstacles.*

***RAMESH DHEERAVATH***

## **Contents**

|                                                                                                                                                       |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Introduction.....                                                                                                                                     | I-VII |
| 1.1 The idea of substance in Greek philosophy: Aristotle.....                                                                                         | 1-7   |
| 1.2 Aristotle on 'Substance.....                                                                                                                      | 7-8   |
| 1.3 <i>Metaphysics</i> Γ: the study of being qua being.....                                                                                           | 8-9   |
| 1.4 <i>Metaphysics</i> Z: the study of substance.....                                                                                                 | 9     |
| 1.5 How hylomorphic analysis threatens <i>Categories</i> substances.....                                                                              | 9-10  |
| 1.6 <i>Metaphysics</i> Z.3: the subject criterion.....                                                                                                | 10-12 |
| 1.7 <i>Metaphysics</i> Z. 6-17: form as substance.....                                                                                                | 13    |
| 1.8 Aristotle and Platonism.....                                                                                                                      | 13    |
| 1.9 <i>Metaphysics</i> Z.17: Forms as causes.....                                                                                                     | 14    |
| 1.10 The resulting view is not Platonism.....                                                                                                         | 14    |
| 1.11 Nor is it materialism.....                                                                                                                       | 15-17 |
| 1.12 Some of the problems of Aristotelian Understanding of Concept of Substance.....                                                                  | 17    |
| 1.13 The idea of substance in medieval philosophy: Thomas Aquinas.....                                                                                | 17-21 |
| 1.14 Ontological patterns of medieval understanding of Concept of Substance.....                                                                      | 21-26 |
| 1.15 Concept of substance in Modern philosophy: The centrality of the concept of substance:<br>Descartes- contribution towards Modern philosophy..... | 26-32 |
| 2.1 Substance as Definition.....                                                                                                                      | 33-40 |
| 2.2 Kinds of Substances.....                                                                                                                          | 40-41 |
| 2.3 God as Absolute Substance.....                                                                                                                    | 41    |
| 2.4 Mind-Body as Created substance.....                                                                                                               | 41    |
| 2.5 The Method of Doubt.....                                                                                                                          | 42-43 |
| 2.6 What cannot be doubted? .....                                                                                                                     | 43-44 |
| 2.7 Why the mind cannot be identical to any Body.....                                                                                                 | 44-46 |
| 2.8 The nature of the mind/body distinction.....                                                                                                      | 46-47 |
| 2.9 Descartes' view of the relationship between mind and body.....                                                                                    | 47-48 |

|       |                                                                         |       |
|-------|-------------------------------------------------------------------------|-------|
| 2.2.1 | Varieties of dualism.....                                               | 48-49 |
| 2.2.2 | A New Problem of Error.....                                             | 49    |
| 2.2.3 | Proving Mind and Body are Distinct.....                                 | 50-53 |
| 2.2.4 | The Existence of Material things.....                                   | 53-56 |
| 2.3   | Space and time and the concept of world in Descartes Understanding..... | 56-57 |
| 2.3.1 | Interpretation.....                                                     | 57-59 |
| 2.4.1 | Time.....                                                               | 59-60 |
| 2.4.2 | Interpretation.....                                                     | 60-61 |
| 2.5.1 | Causes of Motion.....                                                   | 61-62 |
| 2.5.2 | Interpretation.....                                                     | 63-64 |
| 2.6.1 | The Motion of the Heavens.....                                          | 64-65 |
| 2.6.2 | Interpretation.....                                                     | 65-66 |
| 2.7.1 | Origins of the Universe.....                                            | 66-67 |
| 2.7.2 | Interpretation.....                                                     | 67-68 |
| 2.8   | Terrestrial Phenomena.....                                              | 68-71 |
| 2.9.  | Criticism on Descartes Mind-Body by Arnauld.....                        | 71-75 |
| 3.1   | Introduction.....                                                       | 76    |
| 3.2.  | Descartes view of Substance.....                                        | 76-81 |
| 3.3   | Spinoza's Critique on Descartes' Substance.....                         | 81-85 |
| 3.4   | The Unity of Substance.....                                             | 85-86 |
| 3.5   | Deus sive Natura.....                                                   | 86    |
| 3.6   | The Natural Order.....                                                  | 87    |
| 3.7   | Thought and Extension.....                                              | 87-88 |

|        |                                                                 |         |
|--------|-----------------------------------------------------------------|---------|
| 3.8    | Mind and Body.....                                              | 88-89   |
| 3.9    | Spinoza Monistic Substance.....                                 | 89-94   |
| 3.10   | Proofs for Existence of God.....                                | 94-95   |
| 3.11   | Preliminary Propositions.....                                   | 96      |
| 3.12   | Substance Monism Demonstration.....                             | 97-101  |
| 3.13   | The face of universe and concept of space and time.....         | 102-107 |
| 3.14   | The status of Attribute and Modes.....                          | 108     |
| 3.14.1 | Relation between Substance and Attributes.....                  | 108-110 |
| 3.15   | Criticism of Spinoza's Doctrine of Attributes.....              | 111     |
| 3.16   | Spinoza's Doctrine of Modes and Thin Relation to Substance..... | 111     |
| 3.17   | The Relation of Modes with Attributes.....                      | 112-114 |
| 3.18   | Spinoza's World.....                                            | 114-115 |
| 3.19   | Theory of causality.....                                        | 116-120 |
| 3.20.  | Bayle Interpretation on Spinoza Substance.....                  | 120-123 |
| 3.21   | Why Spinoza is not Cartesian about Substance? .....             | 123-125 |
| 4.1    | Leibniz Critique on Spinoza's Substance.....                    | 126-132 |
| 4.2    | Leibniz take on Descartes Substance.....                        | 132-136 |
| 4.3    | Substance pluralism- define and explain.....                    | 136-139 |
| 4.4    | Theory of Monads.....                                           | 139-145 |
| 4.5    | Theory of world as possible worlds.....                         | 146-148 |
| 4.6    | Why is this Particular World Actual? .....                      | 148-150 |
| 4.7    | Why are there Possible Things that don't exist? .....           | 150-151 |
| 4.8    | Possible Worlds and the Problem of Evil.....                    | 151-154 |

|      |                                                                                                     |         |
|------|-----------------------------------------------------------------------------------------------------|---------|
| 4.9. | Conclusion.....                                                                                     | 154-155 |
| 4.10 | Concept of Space and time.....                                                                      | 155-159 |
| 4.11 | Against Absolute Space and Time.....                                                                | 159-161 |
| 4.12 | The Indiscernibility of Identicals.....                                                             | 161-162 |
| 4.13 | The Identity of Indiscernibles.....                                                                 | 162-163 |
| 4.14 | Trouble for the Identity of Indiscernibles.....                                                     | 163-167 |
| 5.1  | Conflicting approaches of theories of Substance.....                                                | 168-172 |
| 5.2  | The Empiricists Hypothesis.....                                                                     | 172-179 |
| 5.3  | Empiricists Attack on Substance.....                                                                | 179-180 |
| 5.4  | Hume's rejection of theory of Aristotle Substance.....                                              | 180-181 |
| 5.5  | Locke's Idea of Understanding Substance.....                                                        | 181-184 |
| 5.6  | Berkeley's Rejection of Material Substance.....                                                     | 184-191 |
| 5.7  | Kant's Critical Revision of the Metaphysics of Substance.....                                       | 191-201 |
| 5.8  | The idea of absolute substance: why the concept of substance cannot be rejected in Metaphysics..... | 202-204 |
| 5.9  | 17 <sup>th</sup> Century theory of Substance as a Perspective.....                                  | 204-206 |
| 5.10 | Substance and teleology.....                                                                        | 206-208 |
| 6.   | Conclusion.....                                                                                     | 209-236 |
|      | Bibliography.....                                                                                   |         |
|      | Publications.....                                                                                   |         |
|      | Presentations.....                                                                                  |         |
|      | Similarity Index Report.....                                                                        |         |

## **Introduction**

17<sup>th</sup> century philosophy is generally regarded as seeing the start of modern philosophy, and the shaking off of the medieval approach, especially scholasticism. It succeeded the Renaissance and preceded the Age of Enlightenment. It is often considered to be part of early modern philosophy. The period is usually taken to start in the seventeenth century with the work of René Descartes, who set much of the agenda as well as much of the methodology for those who came after him. The period is typified in Europe by the great system-builders philosophers who present unified systems of epistemology, metaphysics, logic and ethics, and often politics and the physical sciences too. Immanuel Kant classified his predecessors into two schools: the rationalists and the empiricists, and early modern philosophy is often characterized in terms of a conflict between these schools. The three main rationalists are normally taken to have been Descartes, Baruch Spinoza and Gottfried Leibniz.

The seventeenth century in Europe saw the culmination of the slow process of detachment of philosophy from theology. Thus, while philosophers still talked about and even offered arguments for the existence of a deity, this was done in the service of philosophical argument and thought.

In 17<sup>th</sup> century philosophical discussion, however, this term's meaning is only tangentially related to our everyday use of the term. For 17<sup>th</sup> century philosophers, the term is reserved for the ultimate constituents of reality on which everything else depends.

Some central topics of Western philosophy in its early modern period include the nature of the mind and its relation to the body, the implications of the new natural sciences for traditional theological topics such as free will and God, and the emergence of a secular basis for moral and political philosophy.

In the seventeenth century, “theory of substance” began to take on a uniquely modern sense. This transition was sparked by new theories of mind and ideas, and it connected with other important issues of debate during the seventeenth century, including debates over the transparency of the mental, physical, and innate ideas. There is a semantic shift marked a philosophical division between the psychological or phenomenal aspects of thought and a moral sensibility as well. The discussions on all of these topics were rich and varied in the seventeenth century.

Almost all major philosophers have discussed the concept of substance and an attempt to cover all of this history would be unwieldy. The selection made will concentrate on those philosophers in whom the broadly analytic tradition has shown most interest. First we shall look at the development of the concept in the ancient world, culminating in the work of Aristotle. His account dominated debate through the middle Ages and until the early modern period. I shall consider mainly on various rationalist thought on substance and I will take some of glimpse of the empiricist treatments of the theory of conceptual understanding of substance.

My thesis discusses the most important theories of substance from the 17<sup>th</sup> century: those of Descartes, Spinoza, and Leibniz. Although these philosophers were highly original thinkers, they shared a basic conception of substance inherited from the scholastic Aristotelian tradition from which philosophical thinking was emerging. In a general sense each of these theories is a way of working out dual commitments: a commitment to substance as an ultimate subject and a commitment to the existence of God as a substance. In spite of these systematic similarities between the theories, they ultimately offer very different accounts of the nature of substance. Given the foundational role that substance plays in the metaphysical schemes of these thinkers, it will not be surprising to find that these theories of substance underlie dramatically different accounts of the nature and structure of reality.

To discuss about 17<sup>th</sup> century accounts of substance we need to keep in mind that a concern with substance and its nature was nothing new to the period. In fact, philosophical thinking about the nature of substance stretches all the way back to ancient Greece. While the new philosophers of the 17<sup>th</sup> century were keen to make a break with the past and to tackle philosophical and scientific problems from new foundations, their views did not develop in an intellectual vacuum. Indeed, the scholastic-Aristotelian tradition of the day informed their thinking about substance in a number of ways, and contributed to a number of commonalities in their thought. Before looking at specific theories of substance, it is important to note four commonalities in particular.

## **Substance, Mode, Inherence**

For the philosophers we will discuss, at the very deepest level the universe contains only two kinds or categories of entity: substances and modes. Generally speaking, modes are ways that things are; thus shape (for example, being a rectangle), color (for example, redness), and size (for example, length) are paradigm modes. As a way a thing is, a mode stands in a special relationship with that of which it is a way. Following a tradition reaching back to Aristotle's *Categories*, modes are said to exist in, or inhere in, a subject. Similarly, a subject is said to have or bear modes. Thus we might say that a door is the subject in which the mode of rectangularity inheres. One mode might exist in another mode (a color might have a particular hue, for example), but ultimately all modes exist in something which is not itself a mode, that is, in a substance. A substance, then, is an ultimate subject.

## **Independence and Priority**

The new philosophers of the 17<sup>th</sup> century follow tradition in associating inherence with dependence. They all agree that the existence of a mode is dependent in a way that the existence of a substance is not. The idea is that modes, as the ways that things are, depend for their existence on that of which they are modes, e.g. there is no mode of 'being 8'0 long' without there being *a subject* that is 8'0 long. Put otherwise, the view is that the existence of a mode ultimately requires or presupposes the existence of a substance. This point is sometimes put by saying that substances, as subjects, are metaphysically prior to modes.

## **Degrees of Reality**

In contrast to contemporary philosophers, most 17<sup>th</sup> century philosophers held that reality comes in degrees that some things that exist are more or less real than other things that exist. At least part of what dictates a being's reality, according to these philosophers, is the extent to which its existence is dependent on other things: the less dependent a thing is on other things for its existence, the more real it is. Given that there are only substances and modes, and that modes

depend on substances for their existence, it follows that substances are the most real constituents of reality.

### **God Exists and is a Substance**

Furthermore, each of the philosophers we will discuss maintains and offer arguments on behalf of the claim that God exists, and that God's existence is absolutely independent. It is not surprising then, given the above, that each of these philosophers holds that God is a substance *par excellence*.

There could be said to be two rather different ways of characterizing the philosophical concept of *substance*. The first is the more generic. The philosophical term 'substance' corresponds to the Greek *ousia*, which means 'being', transmitted via the Latin *substantia*, which means 'something that stands under or grounds things'. According to the generic sense, therefore, the substances in a given philosophical system are those things that, according to the system, are the foundational or fundamental entities of reality. Thus, for an atomist, atoms are the substances, for they are the basic things from which everything is constructed. In David Hume's system, impressions and ideas are the substances, for the same reason. In a slightly different way, Forms are Plato's substances, for everything derives its existence from Forms. In this sense of 'substance' any realist philosophical system acknowledges the existence of substances. Probably the only theories which do not would be those forms of logical positivism or pragmatism that treat ontology as a matter of convention. According to such theories, there are no real facts about what is ontologically basic, and so nothing is objectively substance.

The second use of the concept is more specific. According to this, substances are a particular kind of basic entity, and some philosophical theories acknowledge them and others do not. On this use, Hume's impressions and ideas are not substances, even though they are the building blocks of what constitutes 'being' for his world. According to this usage, it is a live issue whether the fundamental entities are substances or something else, such as events, or properties located at space-times. This conception of substance derives from the intuitive notion of individual *thing* or *object*, which contrast mainly with properties and events. The issue is how we are to understand the notion of an object, and whether, in the light of the correct understanding, it remains a basic notion, or one that must be characterized in more fundamental terms. Whether, for

example, an object can be thought of as nothing more than a bundle of properties, or a series of events.

The concept of substance figures centrally in a positive way for the rationalist philosophers, in a way that it does not for the empiricists. The rationalists' substances are not, however, the individual objects of everyday life.

Descartes believed in only two kinds of substance: material body, which is defined by extension, and mental substance, which is defined by thought, which, in this context, is more or less equivalent to consciousness. Descartes like Aristotle and unlike most of his contemporaries and immediate successors was not an atomist. He did not believe in a void between bodies, so there is a sense in which there is just one material substance, numerically as well as specifically. For Descartes, therefore, material substance falls more naturally into the *stuff* category, rather than into the *thing* category. The situation is different for mental substance. The *cogito* shows that Descartes definitely believes that each person is a different individual mental substance.

Descartes, like the atomists, believed that matter operates in an entirely mechanical way. There is, therefore, no causal role for substantial form to play and, hence, no need for such forms. His two substances are each defined in terms of one property extension for matter and thought for mind, hence there is no problem about the relation between substance and the properties in terms of which it is defined. As he does not have substances as individuals made of kinds of stuff, there is no conflict between individuals and stuffs.

For Spinoza, there is only one substance, the existence of which is demonstrated by a version of the ontological argument that is thought of as being both God and Nature. It is an unending controversy whether Spinoza was a pantheist, or an atheist who called nature 'God' because it was the one true substance and existed necessarily. Everything else is a mode of this one substance. The view is analogous to a claim that the universe is space-time as a whole, with matter as distortions in it. If this were true, material objects would be modes of space-time. The analogy would be more exact if one also thought of the laws of nature as equivalent to the divine intellect immanent in nature. Spinoza's view represents the extreme end of stressing the status of substance as the fundamental existent conceived of as wholly necessary and self-subsistent: that is, criteria (i) and (ii) in the original list come to take on maximum weight. Nothing but the universe as a whole meets this criterion fully.

Leibniz was not satisfied by this conception of divine substance, at least in part because it confines God to what actually exists. For Leibniz, God contains within himself all possibilities, not just the actual world: this latter is just that maximal set of possibilities that he has best reason to actualize. Leibniz acknowledges created substances, though they are very intimately dependent on God. In the *Discourse on Metaphysics*, he says it is clear that created substances depend on God, who conserves them and indeed who produces them continuously by a kind of emanation, just as we produce our thoughts.

The analogy with thought hardly emphasizes the independence of substance! Nevertheless, created substances do constitute the created world, and do, in that sense, meet criterion (i) for being substance. They are also the subjects of predication, so they meet criterion (iii). Leibniz's substances, however, are the bearers of change (criterion (IV)) in a very different way from Aristotle's individual substances. An Aristotelian individual possesses some properties essentially and some accidentally. The accidental properties of an object are ones that can be gained and lost over time, and which it might never have possessed at all: its essential properties are the only ones it had to possess and which it possesses throughout its existence. The situation is different for Leibniz's *monads* which is the name he gives to individual substances, created or uncreated (so God is a monad). Whereas, for Aristotle, the properties that an object *has to* possess and those that it possesses *throughout its existence* coincide, they do not do so for Leibniz. That is, for Leibniz, even the properties that an object possesses only for a part of its existence are essential to it. Every monad bears each of its properties as part of its nature, so if it were to have been different in any respect, it would have been a different entity.

Furthermore, there is a sense in which all monads are exactly similar to each other, for they all reflect the whole world. They each do so, however, from a different perspective.

For God, so to speak, turns on all sides and considers in all ways the general system of phenomena which he has found it good to produce...And he considers all the faces of the world in all possible ways...the result of each view of the universe, as looked at from a certain position, is...a substance which expresses the universe in conformity with that view.

So each monad reflects the whole system, but with its own perspective emphasized. If a monad is at place  $p$  at time  $t$ , it will contain all the features of the universe at all times, but with those relating to its own time and place most vividly, and others fading out roughly in accordance with temporal and spatial distance. Because there is a continuum of perspectives on reality, there is an infinite number of these substances. Nevertheless, there is internal change in the monads, because the respect in which its content is vivid varies with time and with action. Indeed, the passage of time just is the change in which of the monad's contents are most vivid. It is not possible to investigate here Leibniz's reasons for these apparently very strange views. My present concern is with whether, and in what sense, Leibniz's substances are subjects of change. One can say that, in so far as, at all times, they reflect the whole of reality, then they do not change. But in so far as they reflect some parts of that reality more vividly than others, depending on their position in space and time, they can be said to change.

## **Chapter I:**

### **Historical Background and Chronological Order of the concept of Substance.**

#### **Background of the concept of Substance:**

##### **1.1 The idea of substance in Greek philosophy: Aristotle**

Substance is that which exists independently, in itself, unlike accidents, or properties existing in another and through another. Substance, something stable and permanent, as opposed to the volatile and transient; essence, underlying the phenomenon; indivisible, one, comprehended by the mind, in contrast to the plurality of the sensually perceptible. In the concept of substance, the most important aspect of being finds expression. In European thought the notion of substance received different interpretations: it was regarded as a concrete individual and as a single foundation of all that exists; as ontological reality and as a logical subject; as a spiritual principle and as a material substratum; as the invariable, self-identical essence of the phenomenon and as the law of change, the principle of constructing a series of events, the relation of the accessory of the set of single cases.

In the history of philosophy, two basic approaches to the treatment of the concept of substance are traced: monistic and pluralistic. Philosophers, who gravitate towards pantheism, admit a single and unique substance that is conceived as something that, for its existence, does not need anything else, for there is a cause for itself; the independence of a substance is understood here as absolute. Everything that exists is regarded as a state, phenomenon or attribute of this single substance.

Another understanding of the substance is formed by philosophers of a pluralistic orientation, to which, in particular, those who come from the principle of creationism and the doctrine of the transcendence of God belong, among others. Considering substances as independent principles, unlike their accidents, philosophers of this orientation recognize the relative nature of their independence, which is determined by the place occupied by the substance in the hierarchy of being. Absolute independence is possessed only by the highest the divine substance, which is therefore sometimes called not a substance, but a super substantial principle. However, because the creature substances do not have complete independence since they depend on the higher and

to some extent also on other substances, they do not cease to be centers of power and activity, proving to be real causes of what is happening in the physical and spiritual world. Approximately such an interpretation of the substance is given with certain reservations. Aristotle, Plotinus, Augustine, Boethius, Thomas Aquinas, Leibniz, Berkeley, and Bolzano, Teichmüller, modern Neo-Thomists, personalists and religious philosophers-Leibnizians.

Although the question of the origin of all things was raised in ancient philosophy from the first steps, the concept of substance in its sense was formed only in Aristotle. The prerequisites for this were created in the Eleatics School and in Plato, who opposed the truly existing as one, eternal and unchanging to the sensible world of the plural, temporal and changing. Truly, the existing is comprehended only by the mind and is inaccessible to the senses, the subject of which are the transient phenomena of the empirical world. According to Plato, “true being is some kind of intelligible and disembodied idea”<sup>1</sup>

Plato calls them “essences”? Separated from sensory things and are the prototypes of the latter. Criticizing the Platonic doctrine of ideas, Aristotle in the “categories” identifies essence with a single individual: the first essence is this is something “this man” or “this horse.” Unlike all other categories that are predicated of substance according to Aristotle, is an independent being, it “does not affect any subject and is not in any subject”<sup>2</sup>(Cat. 5, 2a).

Logically, the substance is the subject of all its predicates, with the ontological the substrate? The real carrier of properties and the premise of relations. From the first essences, Aristotle distinguishes the second, to which not individuals belong, but the general concepts- genera and species: “so, for example, a certain person is, as in kind, in a man, and a kind for this species is a living being”<sup>3</sup>

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<sup>1</sup> *The Complete Works of Aristotle: the revised Oxford translation*, 2 volumes, J. Barnes (ed.), Princeton: Princeton University Press. 1984, p.246 c

<sup>2</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press. 1994, p.5,

<sup>3</sup> *Ibid.*, p.18

Unlike the non-predicative first essence, usually called the substance, the second, which served as the predicate of the first, was called the pure essence. Aristotle after Plato believes that it is substances possessing stability and self-identity that constitute the subject of knowledge. And yet the substance as a separate individual in its singularity cannot be known; Aristotle is forced to admit that the subject of knowledge is the “indivisible species”, i.e. the least common, the species closest to individuals, which goes back to the Platonic idea and is called indivisible because it is not further divided into species. Essence as an “indivisible form” is the essence of being?

In the case of the indivisibility of existence in appearance, we are talking about the essence- the identical form of the thing as the reason for being the latter; such, for example, “the soul as the cause of the living being”<sup>4</sup> (Metaphysics, V, 8).

In the case of the indivisibility of being in number, the essence will be a composite of form and matter; such are all sensible substances, primarily living beings. In addition to composite, there are also simple substances that represent a pure relevance, or a pure form. The highest among them is, according to Aristotle, the perpetual motion, the pure mind, thinking itself, the reason for being and the life of everything. As we see, the substance is identified by Aristotle not only with a single being, but also with form, which gave rise to many problems and difficulties in the further interpretation of this concept.

Another influential philosophical school, which proposed a different interpretation of the concept of substance than the Aristotelian interpretation, was the Stoics. They treat the substance as a substrate and consider the first of the four categories recognized by them. The existing Stoics consider a single substance: it is the “fiery god-logos and it is also cosmos”. This beginning is bodily, because, according to the Stoics, to exist means to be bodily the Stoics considered both the soul and God to be corporeal. God Logos, identified with the creative fire, the source and cause of all generation (Sext. Adv. M. IX 196 sq.), Permeates the whole cosmos as honeycombs, and is “nature” and “Warm breath”, fire ether<sup>5</sup> (Diog. L. VII 137). Thanks to the pervasive “tension” of

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<sup>4</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press. 1994, p. 8

<sup>5</sup> *Ibid.*, p. 137

the pneumatic system, the unity of the cosmos and the individual existence of things are ensured, which, however, should not be thought of as a substance in the spirit of Aristotle. "Stoic ontology is not the ontology of substances, but the ontology of the given."<sup>6</sup> (Graser, A. Zenon von Kition, *Positionen und Probleme*, V., 1975, p. 27).

In the pantheistic ontology of the Stoics, the Logos and the unqualified substratum, matter (Diog. L., VII 134), active and passive beginnings are thought of as inseparable and, therefore, constitute a single world substance. Close to the stoic understanding of the substance is revived in the pantheistic and materialistic teachings of the Renaissance and New Age.

In the middle Ages, the treatment of substance relies primarily on the Aristotelian and partly Neoplatonic tradition. The duality of the Aristotelian doctrine of substance gave birth to two directions: its understanding as a single individual formed the basis of nominalism, and the extreme realism gravitated towards understanding it as Essence, whose representatives proceeded from the real existence of the common.

Gilbert of Porretan (12th century), following Boethius, distinguishing substances as actual individuals from subsidies as genera and species, examines the ontological status of subsidies, from which, he believes, substances arise. The source of sensible substances, according to Hilbert, is what the Greeks called ideas, and the Latins called forms. Ideas are pure substances, since they are free from matter. There are four basic pure substances: fire, air, water and earth, which do not need to be confused with the corresponding sensually given elements, because they are about their ideal prototypes. In general, all forms of composite substances are only images of pure and eternal substances- ideas. Thus, the forms, as Aristotle thought them, in the extreme realist Hilbert, are transformed into universals existing before things. God, according to Hilbert, is an essential being, from which all things receive their essence and being. The being ness of God is the being of all creatures. Unlike God, in which being and essence coincide, in created things their being and essence are different. The source of the being of a thing is its idea, or its pure form; so, corporeality is the being of the body, the very body that exists due to corporeality is that which is. Hilbert gives

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<sup>6</sup> Graser, A. Zenon von Kition, *Positionen und Probleme*, V., 1975, p. 27

an interpretation of the substance in the spirit of Platonism, to which other representatives of realism are close to varying degrees-Bernard Chartres, Guillaume from Champo, Guillaume from Conch, and others.

A closer to Aristotelian understanding of the substance is defended by Thomas Aquinas. Identifying substances with individuals, he distinguishes between substantial and accidental forms: the latter are the sources of qualities, while the former inform beings of being<sup>7</sup> (Summa theol., I, q. 76 4 s). “Being itself is an act of substance” (Summa contra gent., II 54).

Depending on the nature of the form inherent in it, the substance occupies a certain place in the hierarchy of creatures. In lower substances – inorganic elements and minerals – the form is formal cause and constitutes the external certainty of the thing. At the next stage – in plants – the form appears as final cause, the ultimate cause of the substance, or the soul from within it forming. In animals, the form is efficient cause – the acting cause, and such substances are not only animate, but also active. Finally, in the fourth stage, the form appears not as the beginning that organizes matter, but in itself. It’s a spirit, or an intelligent soul. Being immaterial, it does not perish with the death of the body, it can be destroyed only by the Creator. Thomas calls this substance “self-existent.” If the sensual animal soul carries out its actions through the body, then the sensible has actions separated from the body, thinking and will. All substances, except spiritual, consist of matter and form, while spiritual beings are from substance and being: the substance in them is a potential beginning. “It is not the same consist of matter and form and of substance and being, although both are related in both as a potency and an act”<sup>8</sup> (Summa contra gent., II 54).

The nominalists of the 14th century consider the problem of substance quite differently. – William Ockham, Nicholas from Otrekura, Peter Lombard and others. They proceed from Aristotle’s doctrine of substances as individual individuals, but place it in a new context, seeing the supreme cause of all things in an all-powerful divine will that does not have any determinism on it and that which is represented by the ideas of the divine mind itself. Relying on Duns Scotus, who

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<sup>7</sup> Thomas Aquinas Summa theol., I, p.76

<sup>8</sup> Aquinas Summa contra gent., II p.54

maintained that “nothing but will is the cause of all that they will wants”<sup>9</sup> (Oxon II, d.25 quic n. 22)

Ockham believes that first God creates his own will by his will things, and then as their representations, ideas arise-the signs of individual things in the mind. Thus, the substance loses its meaning as an independent being, the bearer of accidents, which have no existence without substances. According to Peter of Lombard, God “can create any accident without mediating substance only by his action, therefore, he can create any accident without another and the substance without accident by his own action”<sup>10</sup> (Petros Lombardi, Lion, 1495, I d 30 qu 1).

Such an argument removes the difficulties of the “transubstantiation of substances” in the sacrament of the sacrament, but at the same time entails a radical reorganization of the former ontology and theory of knowledge. If in scholasticism from Bonaventura to Thomas the object of cognition are substances as intelligible realities, then, according to Occam, knowledge must be directed to the empirical reality of individual things, because not substances are learned, but only accidents; this is intuitive knowledge, a tendency is to treat knowledge as the establishment of a link between accidents, i.e. limit it to the world of empirical phenomena, and the Aristotelian principle of ontology and logic is being revised, which states that the substances are the first relations. This trend triumphed in modern times in natural science and philosophy in English empiricism, Kant’s transcendental idealism, in neo-Kantianism and positivism.

The elimination by nominalists of the intelligible substances and the reduction of the empirical being to the level of phenomena unexpectedly turned out to be consonant with the principles of the stoic ontology, which considered all things as actual data, manifestations of a single world substance. Nominalism thus prepared the ground for the reception of Stoicism, which received a new life in the natural philosophy of the 16th century – Telezio, J. Bruno, Campanella, etc. Nature acts as a single self-sufficient and self-sufficient, pantheistically interpreted dynamic system in which everything is subordinated to the laws of necessity. Bruno’s doctrine of infinite substance

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<sup>9</sup> Oxon II, d.25 quic n. p.22

<sup>10</sup> Petros Lombardi, Lion, 1495, I p.30

as an impersonal absolute, which manifests itself in all things, anticipates the pantheistic interpretation of substance in Spinoza.

Representatives of realism in the treatment of substance do not equally accept both the idealistic and materialistic understanding of it. If Herbart treats substances as immutable and self-identical principles of things as real; B. Bodzano restores the independent being of monadic substances, in the spirit of Leibniz, understanding it as irrelevant to the knowing subject, but in contrast to Leibniz allowing the interaction of monads. F. Brentano contrasts Aristotle's realism with the "sophist" Hegel, who reduced the substance to the level of mere phenomena, dissolving them in this way in a relationship. G. Teichmüller, rejecting the Kantian criticism of rational psychology and defending the thesis of the immortality of the individual soul, proceeds in his personalistic metaphysics from the understanding of the I as a prototype of the concept of substance in general and considers immaterial substances-monads as real, active principles of everything.

## **1.2. Aristotle on 'Substance':**

The substance theory of Aristotle underlies his entire philosophy. Substance theory is the belief that substances are the ultimate things in the universe. The universe at rock bottom is not made up of elementary particles but substances. This is completely different from our modern view of the world. Aristotle defends this position in his books *Categories* and *Metaphysics*. His defense is long and detailed. Without an understanding of Aristotle's logic, such a defense cannot even be understood today. Aristotle divides the world into two categories: substances and accidents—substances are the most fundamental

### **1.2.1. *Metaphysics* Γ: the study of being qua being**

Aristotle often describes the topic of the *Metaphysics* as "first philosophy." In Book IV.1 (Γ.1) he calls it "a science that studies being in so far as it is being" (1003a21)<sup>11</sup>. (This is sometimes translated "being qua being.") What does this mean?

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<sup>11</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press, 1994, p.21

“S studies x qua y” means that x is the subject matter of science S, and y is the aspect of x under which S studies it.

Thus, physics studies natural objects things that are subject to change. These are things that come into being and go out of being. So physics studies certain beings (the natural ones), and it studies them in so far as they are subject to change.

*Metaphysics*, on the other hand, studies beings in general (not just changeable ones) and it studies them “qua being” in so far as they are beings.

On this interpretation of “being qua being,” see n.1 on 1003a21; Aristotle makes clear at 1004b10ff that this is the right interpretation.

But in *Γ.2* Aristotle reminds us (as he frequently says elsewhere) that “being is said in many ways”. (There were intimations of this in the *Categories*, where we learned about the ten categories of being.) But this does not mean that the term *being* is “homonymous” (i.e., equivocal or ambiguous). Rather, the term is applied to one *central* case, and all other uses of the term are explicated with reference to the central case. G. E. L. Owen has given the label *focal meaning* to this kind of multivocity.

#### Example

Take the term *healthy*. Many different things can be called healthy: a person, a diet, a complexion, etc. But they aren’t all healthy in the same sense. A person is healthy because he *has* health; a diet is healthy because it *leads to* health; a complexion is healthy because it is *indicative of* health.

Notice that in all cases there is reference to **health**. And what is the central case of health? What is it that is healthy in the primary sense? Clearly, a person (or animal, or plant). A diet is healthy only because it makes a person healthy, and a complexion is healthy only because it indicates that the person who has it is healthy, whereas a person is healthy because he **has** health (and not because of his relation to other things that are healthy in some more central way than the way a person is healthy).

So one might say that persons are healthy in the **primary** sense of the term, while diets and complexions and the like are healthy only in **secondary** senses of the term.

It is the same with beings, Aristotle tells us (1003b6):

“For some things are called beings because they are substances, others because they are attributes of substances, others because they are a road to substance, or because they are perishing’s or privations or qualities of substance, or productive or generative of substance ....”<sup>12</sup>

This fits in perfectly with what we learned in the *Categories*, where primary substances (individuals) were argued to be the ontologically basic things. Beings in other categories (e.g., qualities, etc.) owe their existence to the substances they inhere in. Qualities are beings, too, but not in the way that substances are.

So the study of being qua being must begin with a study of the central cases of being, the things that are beings in the primary sense: substances.

### **1.2.2. *Metaphysics Z*: the study of substance**

Aristotle begins book Z (VII) with a reminder that being is said in many ways, and that the being of substances is central, and that if we are to study being we must study substance. Indeed, he tells us (1028b3): ... the old question always pursued from long ago till I now, and always raising puzzles ‘What is being?’ is just the question ‘What is substance?’<sup>13</sup>

But Aristotle can no longer take it for granted that the old *Categories* examples of substances a man, a horse, a tree are going to be acceptable as basic items. Why? Because of the **hylomorphic analysis** that was introduced in the *Physics*.

### **1.2.3. How hylomorphic analysis threatens *Categories* substances**

Matter underlies and persists through substantial changes. A substance is generated (destroyed) by having matter take on (lose) form. Examples:

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<sup>12</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press, 1994, p.58

<sup>13</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press, 1994, p.74

1. A house is created when bricks, boards, etc., are put together according to a certain plan and arranged in a certain form. It is destroyed when the bricks, boards, etc., lose that form.
2. An animal is generated when matter (contributed by the mother) combines with form (contributed by the father).

This suggests that the primary substances of the *Categories*, the individual plants and animals, are, when analyzed, actually compounds of form and matter. And in the *Metaphysics*, Aristotle suggests that a compound cannot be a substance (Z.3, 1029a30).

This may seem a strange move for Aristotle to be making. But the idea may be this:

A compound cannot be a basic ontological ingredient. Cf. these compounds:

- a brown horse
- a scholar

Each of these is a compound of substance + attribute. That is:

- a brown horse = a horse + brownness
- a scholar = a human + education

In these cases, the compound is a compound of entities that are more basic. “A scholar is not an ontologically basic item in the world—a scholar is just a human with a liberal education.”

If then primary substance (in the *Metaphysics* conception of primary substance) cannot be a form-matter compound, what is primary substance? The possibilities seem to be: **matter** and **form**. Aristotle actually discusses more possibilities this is a simplification.

#### 1.2.4. *Metaphysics* Z.3: the subject criterion

In Z.3, Aristotle considers the claim of matter to be substance, and rejects it. Substance must be **separable** and a **something** (usually translated, perhaps misleadingly, as “an individual”).

**Separable:** to be separable is to be nonparasitic. Qualities, and other non-substances of the *Categories*, are not separable. They only exist **in** substances. Separability, then, amounts to **independent existence**.

**This something:** [there is much dispute over what Aristotle means by this odd locution] “Individual” comes close, except for the suggestion that only a primary substance of the *Categories* could count as a “this something”. Perhaps an individual plant or animal counts as a ‘this something’, but perhaps other things do, too. For Aristotle seems to count form as, in some way, a ‘this something’ (e.g., H.1, 1042a28).<sup>14</sup>

But, as a rough gloss, **individuality** seems to be what is at issue. Now it may seem puzzling that matter should be thought to fail the “separability/individuality” test. For:

**Separability:** It seems that the matter of a compound is capable of existing separately from it. (The wood of which a tree is composed can continue to exist after the tree has ceased to exist.)

**Individuality:** We can certainly pick out a definite, particular, batch of matter as a singular object of reference: “the quantity of wood of which this tree is composed at this time.”

But perhaps Aristotle’s point is not that matter is neither separable nor individual; all he is committed to saying is that matter fails to be **both** separable and individual.

**Separability:** Separate from a substance, matter fails to be this. It owes what individuality it has to the substance it is the matter of. (What makes this quantity of wood one thing is that it is the wood composing this one tree.)

**Individuality:** Considered as an individual (a “this something”), matter fails to be separate from substance. This batch of wood no longer has any unity once it no longer composes the tree it used to be the matter of unless it now happens to be the matter of some other substance that gives it its unity.

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<sup>14</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press, 1994, p.87

**Objection:** Can't we use a "dummy" word, like "quantity of" or "collection of," to give something a kind of unity? E.g., "the quantity of wood in the table," "the collection of parts of which the house is made." Perhaps, but Aristotle resists the idea that such a thing is a **genuine unity**. It's what he would call a "heap" (cf. 1041b12 and 1045a8)<sup>15</sup>, and heaps do not count as genuine individuals.

So matter cannot simultaneously be both separable and individual, and therefore matter cannot be substance. The only remaining candidate for primary substance seems to be **form** (which Aristotle now begins to call **essence**). It is clear that Aristotle is now focusing on the concept of the substance **of** something i.e., what it is about an individual plant or animal (what the *Categories* called a "primary substance") that makes it a self-subsistent, independent, thing. Some evidence:

- ❖ Z.3, 1029a30: "the substance composed of both I mean composed of the matter and the form should be set aside ... we must, then, consider the third type of substance [the form], since it is the most puzzling."
- ❖ Z.6, 1031a16: "a given thing seems to be nothing other than its own substance, and something's substance is said to be its essence."
- ❖ Z.11, 1037a6: "it is also clear that the soul is the primary substance, the body is matter, and man or animal is composed of the two as universal. As for Socrates or Coriscus, if <Socrates> soul is also Socrates, he is spoken of in two ways; for some speak of him as soul, some as the compound."
- ❖ Z.17, 1041a9: "substance is some sort of principle and cause ..."

It thus appears that in rejecting the claim that matter is substance, Aristotle is rejecting the **subject criterion** as the basis for deciding what a primary substance is. To be a substance is not to be an

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<sup>15</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press, 1994, p.56

ultimate subject, for the ultimate subject of change seems to be matter (perhaps even a featureless and unknowable prime matter?).

### 1.2.5. *Metaphysics Z. 6-17: form as substance*

Aristotle concludes Z.3 by considering three possible candidates for substance: matter, form, and the compound of matter and form. He has already rejected matter (1029a28), and at 1029a31 he says that the compound “should be set aside, since it is posterior to the other two, and clear.” Instead, he suggests that we consider the third candidate form for the title of substance.

This seems very odd, since we’d expect Aristotle to be rejecting both materialist and Platonist answers to the question of which things are the substances (i.e., ultimate realities). That would suggest rejecting both matter and form, and opting instead for the compound.

What may be going here is that Aristotle has shifted away from the **population question** (which things are substances?) and toward the **explanatory question** (what is it that makes something a substance?). Evidence of this is the frequent occurrence beginning in Z.3 of the locution “substance of” as in 1028a35<sup>16</sup>

For the essence, the universal and the genus seem to be the substance **of** a given thing.

The idea is this: when you ask what the substance **of** x is, you are asking what it is that **makes** x a substance. So the reason form gets the nod over the compound is that we are trying to explain what makes a given hylomorphic compound a substance. In this case, it is pointless and circular to cite the compound. Our choices seem to be: matter or form. Since matter has been rejected, form is the default candidate.

### 1.2.6. Aristotle and Platonism

Does Aristotle’s view that substance is **form** or **essence** make him a Platonist? Most commentators think not, but for different reasons.

Some think that the kind of essence or form that Aristotle counts as primary. Substance is one that is not in any way universal; a form that is as individual as the compound whose form it is. Thus,

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<sup>16</sup> *Metaphysics, Books Z and H* (Clarendon Aristotle Series), translation and commentary, D. Bostock, Oxford: Clarendon Press, 1994, p.38

Socrates and Callias would each have his own distinct individual form there would be as many individual human forms as there are humans. This view is usually supported by appeal to Aristotle's use of expressions like "your essence" "your essence is what you are in your own right," (1029b17), and "being Socrates" (1032a8), and to his argument in Z.13 that universals are not substances.

Others think that the "individual forms" solution is not to be found in Aristotle, and is anyway unavailable to him. On their view, the primary substance of the *Metaphysics* is **species form** something that is common to different members of the same species, but is still, in some plausible sense, an individual ("this something"). This view is usually supported by appeal to Aristotle's claim in Z.4 that essence belongs only to species of a genus, and to his argument in Z.15 that no individual is definable together with his account of a definition as a formula that tells us the essence of something.

#### **1.2.7. *Metaphysics* Z.17: Forms as causes**

Z.17 seems to chart a course about substance that is anti-Platonic but does not decide between the individual-form and species-form interpretations of Aristotle's doctrine. The main ideas: The individual substances of the *Categories* are, indeed, compounds of matter and form, **but** they are not just heaps, or piles, of components. Rather, they're like syllables.

That is, they're not just unstructured collections of elements, but have a structure that is essential to their being what they are. The syllables **BA** and **AB** are different, but they are the same collection of components they have the same "matter".

Structure or form is not just an ingredient (or what Aristotle here calls an "element") in the compound. Here's a useful analogy. A recipe is more than just a list of ingredients. It also includes instructions on how to put the ingredients together. But it would be a mistake to think that the instructions are just another ingredient.

Aristotle offers an infinite regress argument for this: if the structure of a compound (e.g., a syllable) were just another component (along with the letters) then the whole compound would just be a heap. E.g., the syllable **BA** would be a collection consisting of two letters and one structure. But a structure considered by itself, as an element, is not the structure **of** the syllable.

The syllable **BA** consists of two elements structured in a certain way; it isn't an unstructured collection of three things, one of which is a thing called a *structure*.

So substance is the structure or form of a compound of matter and form (i.e., of a plant or an animal). At the end of Z.17, Aristotle describes substance, in this sense, in three ways:

1. Primary **cause** of being.
2. The **nature** (of a plant or animal).
3. Not an element, but a **principle**.

### 1.2.8. The resulting view is not Platonism

The form that Aristotle says is primary substance is not, like Plato's, separable from all matter (except, perhaps, in thought). And it cannot exist if it is not the form of something. (E.g., the species-form does not exist if there are no specimens of that species.) But it is still separable, in Aristotle's sense, since it is non-parasitic: it does not depend for its existence on the particular batch of matter it's in, nor on the accidental characteristics of the compound it's the form of. The form is not a "thing" in the manner of a Platonic form. It's the **way** something is, the way the matter composing an individual compound is organized into a functioning whole.

### 1.2.9. Nor is it materialism

Why doesn't this view collapse into materialism? That is, why isn't the form that can only exist in matter just a **mode** or **modification** of the matter that it in-forms? Why isn't matter more basic than form in the way that the primary substances of the *Categories* are more basic than their accidents?

The substantial form (i.e., what makes Socrates *human*, or, for the proponent of individual forms, what makes Socrates *Socrates*) is really the basic entity that persists through change. This may seem wrong, since when Socrates dies, his matter persists, although he no longer exists. But when we are tracing the history of Socrates through time, we do not follow the course of the matter that happens to compose his body at any given moment, but that of the form that the matter has. (Animals and plants metabolize; the matter that they are composed of differs from time to time.) So what makes Socrates the kind of thing he is, and what makes him remain, over time, **the same thing** of that kind, is the form that he continues to have.

For Aristotle, the form of a compound substance is **essential** to it; its matter is **accidental**. (Socrates could have been composed of different matter from that of which he is actually composed.) Form may be accidental to the matter that it informs, but it is essential to the compound substance that it is the form of. Form is what makes the individual plants and animals what they are. Therefore, it is the **substance** of those individuals.

Aristotle uses a linguistic criterion to identify substances, and then illegitimately extends the use of the word 'substance' to mean certain things which do not match this criterion. The account which Aristotle gives of ordinary substances may be very helpful to the sciences, but it is not a linguistic account. He should therefore have respected the difference between his two concerns and employed separate vocabulary for each.

To conclude about the Aristotle conception of Substance, is that Substance can be most directly defined as what something is. Man is a substance, a horse is a substance and a rock is a substance. Going in depth of the substance one is introduced to secondary substance which is when something is in essence, for example man, has certain attributes to accentuate a man's individuality. To say a man is just a man is very general and giving these attributes makes the simple man an individual man. 'Man' is a common noun, so it does not refer to a property of the subject but rather the class of which the subject is a member. That which is said of but not in a subject is the predicate term in a subject-predicate sentence which employs the 'is' of identity, rather than of predication. The negative criterion "neither in a subject nor said of a subject" of the categories tells us only which things are substances. We can know that a particular something is a substance but we have to define what makes this a substance. A substance can receive contraries which alter substances to change, move, grow etc. Individual substances, apart from their accidentals/qualities are simple in essence.

Aristotle's view on the nature of reality is "robustly down-to-earth" in comparison to Plato's. Plato believed that we are an imperfect model of the perfect form: God. Instead of analyzing the universal structures from top to bottom like Plato, Aristotle analyses them from bottom to top. He believes that each person has particular characteristics that make them who they are and there

never is a standard of what they should become. In a religious sense one would want to develop themselves to be morally just, to have a respectable soul. Aristotle challenged Plato's beliefs because he was unable to comprehend how every man was placed on the same level below the ideally perfect but have different physical and mental characteristics. Though the theory is meant to establish concrete standards for the knowledge of reality, Aristotle considers it fraught with inconsistencies and believes that the concept of reality depends upon all forms' connection to other elements.

### **1.3. Some of the problems of Aristotelian Understanding of Concept of Substance:**

**Ontological Problems:** Aristotle begins well. He makes a firm declaration that being *qua* being consists, in its primary signification, of what he calls "primary substances". Aristotle's primary substances are those things we refer to as *individuals* or *objects*. They are entities like rocks, trees, persons, cats, aardvarks, hammers, and so on. A primary substance will just be any individual thing that exists. Aristotle will argue that primary substances are subjects of predication that are not themselves predicated of anything else. Thus, for example, someone might predicate "brownness" of me when saying "John has brown hair", but "John", the person, is not predicated of anything else. Rather, I am an entity that exists as an individual in my own right and autonomously, rather than an entity that only exists *in* something else. Here a number of questions arise:

(a) **Problems of Individuation:** How are we to simultaneously think the being and becoming of substances? Substances both become yet persist as being *that* substance. What is it of substance that becomes and what is it of substance that persists? The Aristotelian conception of substance seems to fall into aporia insofar as it treats *form* as that which is *identical* in substance, while treating *accidents* as that which change. Due to this decision,

(i) The Aristotelian conception of substance is unable to account for the *individuality* of substances because *forms* are *generically* the same for all substances belonging to that *type*, e.g., the form of catness is the same for *both* Tasha and Tabbi. Form is thus unable to capture the *individuality* of a thing, yet we wish to claim that all substances are individuals. What concept of substance would allow us to capture the individuality of substances? Form won't do it so we need a more refined concept of substance.

(ii) All we ever know of substances is known through the *qualities* of substance. Yet the qualities of substance are as Hegel notes in the first moment of *The Phenomenology of Spirit* the domain of the universal. Consequently, if substance is always *individual*, the substantiality of substance must be something *other* than *qualities*. As such, to find the substantiality of substance we must peel away all the qualities of substance to see what remains. But since the only determinations of substance are qualities, when we peel all those qualities away we find *nothing*. That is, the substantiality of substance turns out to be a *bare substratum*.

Yet here we encounter a problem similar to that we encountered in (i): insofar as all bare substrata are *bare*, there is nothing left to distinguish one bare substratum from another. This would entail that all substances are *identical* to one another, once again erasing their individual identities.

(ii) If we are not to fall into this problem we thus need a concept of substance that locates the individuality of substance elsewhere than in their qualities and that doesn't lead to a bare substratum that renders it impossible to distinguish one substance from another. It is something like this problem that has led some object-oriented philosophers to argue that the individual being of substances is *withdrawn*. Here one argues that there *are* a set of *qualities* that distinguish one substance from another, but that these qualities are withdrawn from us. There seem, however, to be a few problems with this strategy. First, this strategy seems to conflate epistemological questions with ontological questions. Withdrawal seems to be an epistemological phenomenon, not an ontological phenomenon, yet the issue was one of determining what those features *are* (*haecceities*) that individuate one being from another, not whether we have access to them. Second, one might respond that the question has been answered insofar as it is "real qualities" that are doing the work of individuation, yet here, once again, we encounter the problem of the gap between the universal and the particular: the domain of quality is the domain of universality and essence, yet an ontology of substance requires us to get at the *individuality* of substances. Regardless of whether or not qualities are withdrawn, they still have the feature of being indifferent universals, thereby failing to capture what is *individual* in the substantiality of substances. Third, it does not seem that object-oriented philosophers present an *argument* for withdrawal that isn't based on an appeal to *authority*. It is said that we can conclude that objects are withdrawn based on *Heidegger's* analysis of tools or *Husserl's* analysis of objects. In and of

itself this is not a problem insofar as the object-oriented philosopher could contend that the appeal to authority is just shorthand for the arguments *those authorities* make, but the problem is that it's not clear that arguments drawn from the *descriptive domain* of *phenomenology* can be deployed to draw *ontological* conclusions. In other words, the fact that things withdraw from *us* in our interaction with them does not entail that objects *in themselves* are withdrawn. One would require a different sort of argument to demonstrate that withdrawal is an ontological or metaphysical fact.

(iii) **Endurance.** At the level of their materiality substances are constantly changing. In an organism cells are born and die. In inorganic entities atoms are constantly lost and gained. What is it, exactly, that remains *this* individual across these changes? If we say that substances are individuated by the *matter*, then we will be forced to claim that each material change entails the formation of an *entirely new* substance. Yet this seems wrong. Just because my cat loses hair it does not seem that we should claim that my cat is an entirely new individual. Rather, my cat remains *this* cat. So if the individuality of my cat does not reside in her matter, where does it reside? Once again, *form* seems like a good candidate as my cat's pattern can persist while the matter of which my cat is composed changes. Yet, once again, this leads to problems pertaining to the generic index of form. On the one hand, if two entities share the same *form* are we then to conclude that they're the same *individual*? Why, for example, should we claim that my car is a distinct individual from other cars of the same make? On the other hand, if we do wish to claim that my car is a distinct individual it follows that what individuates the individuality of substance must reside elsewhere than in form.

**(b) Development, Creation, and Destruction:** Additional problems with the concept of substance with respect to issues of development, creation, and destruction.

(i) If we wish to follow Aristotle in claiming that it is form that accounts for the individuality of substances then we'll run into problems when attempting to think the development of entities. Remember form was supposed to account for the *identity* of substance or that which remains the *same* in a substance despite changes in *accidents*. Form would thus be that which persists as the *same* and which therefore guarantees the fact that this substance is still *this* substance. However, a developmental process is not a change pertaining to the *accidents* of a substance, but rather is a change pertaining to the structure or form of a substance. In other words, development

seems to be the *becoming-other* of form. Yet if this is the case then it would seem to follow that form can no longer do the work of maintaining the identity of substance. We're thus led to claim one of two things: *Either* substances have no identity because forms change in developmental processes *or* the form of substances never changes and all developmental change is really *accidental* change. Neither conclusion seems acceptable.

(ii) Similarly, how, within an Aristotelian framework, are we to think the *emergence* or *creation* of new substances? Clearly if being is, as Aristotle suggests, composed of substances then it follows that new substances must emerge from substances that *already* exist. Substances have to be born of substances. So far so good. However, in thinking the emergence of form we must think *transitional* states where the substances out of which a substance emerges are *both* themselves *and* something else *and* where the substance that is emerging both is *and* is not. Yet if form is that which accounts for the *identity* and individuality of substance, then such transitional states seem to be foreclosed insofar as form must remain identical to ground this identity and individuality.

(iii) Additional problems emerge with the destruction of substances. The destruction of something or its death is a radical *change*. It is the dissolution of that thing or its collapse into entropy. However, if we relegate change to a substance's *accidents* and treat form as that which remains the same throughout change, then it is difficult to see how a radical change like destruction could ever take place. Destruction is a change that pertains not simply to the qualities or accidents of a substance, but that dissolves the very *form* of a substance. Consequently destruction requires us to think a form of change that affects the form of substance.

Yet if I've concluded that form is 1) withdrawn, 2) independent of all relation, and 3) that which remains the same throughout changes, then it is difficult to see how any type of change can affect the form of substance. Object-oriented philosophers have attempted to argue that objects are destroyed through a destruction of their parts. In other words, the destruction of a substance's form takes place through a destruction of a substance's parts. Yet here, once again, problems arise: First, granting that objects can gain and lose material parts as in the case of a body gaining and losing cells or a person getting a haircut, how are we to distinguish the destruction of parts where the form of the substance nonetheless continues and the destruction of the parts of a substance that

lead to the destruction of form? Second, do we not here encounter the problem of transitional states where the form of a substance both is and is not itself? And finally third, how is it possible for the parts and accidents of a substance to interact with the form of a substance when that form is withdrawn from all relation?

**Some Conclusions:** From the foregoing we can see why the concepts of multiplicity and difference arise. Far from being a fashionable rejoinder to “retrograde concepts of middle-agers”, problems internal to the nature of substance necessitate the invention of the concepts of multiplicity and difference. In other words, if the concept of substance is to be retained and the aporia it generates are to be overcome, then the concept of substance must be substantially revised. The concept of difference arises out of issues of just how to account for the *individuality* of substance. Aristotle had *undermined* substances by seeking to locate their individuality in form. This treatment of individuality renders it impossible to distinguish one substance from another when both of those substances belong to the same type, thereby erasing the individuality of substance. Arguing that the individuality of substance is there but withdrawn doesn’t help insofar as 1) we continue to treat what is withdrawn as an essence or qualities, thereby encountering the problem of the universal yet again, and 2) we fall into a night in which all cows are black insofar as nothing can be said of this withdrawn essence beyond the fact that it exists. The concept of difference would be that which allows us to get at the individuality of substance.

Similar exigencies call for the concept of multiplicity. Wherever the identity of substance is conceived as a *substratum* serving as a support for accidental qualities, all sorts of aporia emerge. Multiplicity invites us to think the identity of substance not as an unchanging *substrate* but rather as an *activity* on the part of substance over the course of its ongoing life. The advantage of this concept of substance as multiplicity is that it allows us to think the temporal endurance of entities while these entities nonetheless change, while also allowing us to think both the developmental unfolding of entities and their eventual demise in those instances where ongoing activity cannot continue.

#### **1.4. The idea of substance in medieval philosophy: Thomas Aquinas.**

Theories of substance have dominated much of the literature in metaphysics. Today, there are two prominent accounts of substance: bare particularism and bundle theory. Both theories are attractive for different reasons, yet both have serious problems. While bare particularism and bundle theory enjoy preference in the literature on substance, I think that hylomorphism and the metaphysics of substance formulated by Aristotle and adopted by Saint Thomas Aquinas is an attractive view for two reasons: (1) its ability to account for both substantial and accidental change, and (2) its ability to account for the teleological nature of substance. To account for substantial change, hylomorphism makes a distinction between different types of form and matter. In substantial change, the substantial form of a substance is destroyed and replaced with a new substantial form. The subject of this change is prime matter. In accidental change, an accidental form is replaced by a new accidental form and the subject of this change is secondary matter, or the substance itself. Furthermore, a substance can also be understood as a composite of essence and accidents. By postulating an essence distinct from its accidents, hylomorphism can explain how substances are internally unified and directed towards a range of characteristic ends. As an integral part of a more general metaphysics, hylomorphism provides motivation to revisit the metaphysics of Aristotle and Aquinas.

As we have seen already, Aristotle thought of all individual existing things as hylomorphic substances. A consequence of this view is that, for Aristotle, all individual substances are material; there is no such thing as an immaterial substance, since substances are necessarily composed of form and *matter*. Aquinas' Catholic faith, of course, did not permit him to adopt this Aristotelian view since the Catholic Church teaches and Aquinas was convinced of the existence of angels, wholly immaterial beings.

St. Thomas thought that Aristotle's division of individual substance into form and matter was not sufficient, therefore, since it could only explain finite corporeal substances, but not finite

immaterial substances, such as angels, the existence of which, Aquinas was convinced, is dictated to us even by sheer reason. Now, for Aristotle, the essence of a thing was its substance as opposed to its accidents and thus necessarily composed of matter and form. Aquinas was unable to accept this view in so far as he realized he could not extend these concepts alone without modification to simple substances. Hence, the Angelic Doctor insisted that the essence of a thing is *not* necessarily its substance. Instead, he believed that as regards composite substances, their essence is indeed their matter and form “The term essence, used with respect to composite substances, signifies that which is composed of matter and form”, but as far as simple things are concerned, “the essence . . . is form alone.” Thus, there is a fundamental distinction between the essence of a *composite* substance and that of a *simple* substance for Aquinas.

Now, Thomas realized that although a thing must have an essence, it need not necessarily exist. Whatever is not in the concept of the essence comes from beyond the essence and makes a composition with the essence, because no essence can be understood without the things that are its parts. But every essence or quiddity can be understood without understanding anything about its existence: I can understand what a man is or what a phoenix is and nevertheless not know whether either existence has in reality. Therefore, it is clear that existence is something other than the essence or quiddity. . . .

Thus, Thomas drew another crucial distinction, namely one between essence and existence: they are fundamentally distinct except in God, but that shall not concern us here, since just because something has an essence doesn’t guarantee its *existence*. Aquinas defined existence as that in virtue of which any finite thing has actual being:

In things composed of matter and form, neither the matter nor the form nor even being itself can be termed that which is. Yet the form can be called *that by which it is*, inasmuch as it is the principle of being; the whole substance itself, however, is *that which is*. And being itself is that by which the substance is called a being.

The difference between essence and existence is very important because by insisting that not every individual finite being needs to be material, Thomas had thrown out Aristotle’s explanation of change, which, after all, was based on form and matter, reinterpreted as actuality and potentiality.

To retrieve a rational explanation of change, then, Aquinas reinterpreted essence and existence as corresponding to potentiality and actuality, just as Aristotle had done with matter and form: “Existence (stands) to the essence as act to potentiality,” in the sense that the “essence is a potency with respect to the act of existence, because only those things are fully designated as substantial beings that have received existence.” In other words, every finite being, whether material or not, is composed of essence and existence, and “that which actualizes the essence is existence.” Essence and existence are so interrelated that neither can subsist without the other: “There is no essence without existence and no existence without essence; the two are created together, and if its existence ceases, the concrete essence ceases to be.”

Hence, to remedy Aristotle’s shortcomings and apply his philosophy to the Christian faith to support the latter, the Angelic Doctor modified the meaning of essence regarding substance and added the notion of existence. For Aquinas, then, the “essence of a corporeal being is the substance composed of matter and form, while the essence of an immaterial finite being is form alone. . . ,”<sup>17</sup> while “that by which a material substance or an immaterial substance is a real being is existence . . . .”<sup>18</sup>

With this in mind, we can now fully appreciate St. Thomas’ views on causality. With Aristotle, the saint affirmed the four classic causes: formal, material, efficient, and final. However, given Thomas’ addition of the distinction between the concepts of essence and existence, the saintly doctor was now able to add a fifth cause, the “exemplary cause,” which extended Aristotle’s traditional notion of causality and made it more comprehensive, more precise, and more complete.

In the philosophy of Aristotle and St Thomas Aquinas a distinction is made between First Substance and Second Substance. I shall elaborate on this within our own vision and findings.

**First Substance** is the individual uniform thing. It is described in the Essay on Being and Essence. Such an individual cannot be predicated of something else, because it does not inhere in something

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<sup>17</sup> Summa theological vol.1 p.123

<sup>18</sup> Ibid., p.124

else like a *property* does so inhere. The 10 Categories, which will be treated of soon, all refer to the First Substance.

**Second Substance** is the Essence or Identity (see also the essay mentioned) of that first substance. This Second Substance inheres in the First Substance, and can therefore be predicated of the first. If we assume for a moment that the Essence of any human being is the same and can be denoted with the term 'human', then we can say "Socrates (= first substance) is a human (= second substance)."

The Second Substance can be multiplied ('copied') over many individual cases and so gives rise to many individuals (individual human beings).

Second Substance is the first category of the System of Categories.

First Substance is something 'standing on itself'. It is physically generated from an initial condition: the elements of the dynamical system, plus the dynamical law inherent in those system elements. This first substance, as it stands, is a (unique) collection of properties. Each property is, as a property, not 'standing on itself', because it always is a property of some first substance. They are in a way beings but they are not (self) subsistent. These 'beings' are called accidents. But they need not always to be *accidental*. Some accidents are directly caused by the essence of the thing, others are caused by extrinsic (extrinsic in relation to the Essence) factors.

There are two domains of existence of, and within, the thing the first substance: (1) The *genotypical domain*, this is the domain of the dynamical law and thus the domain of the Essence, and (2) the *phenotypical domain*, this is the domain of the properties generated by the Essence or generated by external causes.

The first substance itself is situated in the phenotypical domain and is the totality of its properties which are also situated in that same domain. If we speak in the context of predication, then we can say that the First Substance is never in a subject, and as a predicate can never be predicated of a subject, while the Second Substance is always in a subject, and as a predicate can be predicated of a subject. Accidents also are always in a subject, but, in contradistinction to Second Substance, accidents belong to the phenotypical domain.

The type of metaphysics, here developed, is a contemplation from the point of view of the *in the real world existing individual uniform thing as first substance*. Such a first substance shows, i.e. implies, several *ways of being* which can be denoted by Second Substance a first way of being, and the Accidents several other ways of being. When we ask questions concerning the *what about* of these ways of being, it is possible to give more and more generalized answers, for example when we ask "what is being red?" what does it mean that this individual thing, pointing to it with my finger -- is red?, we can answer "a color", and when we ask "but what is a color?", then we can give some more general answer. This process can go on, but not indefinitely. We will arrive at a highest concept, in this case the concept of *Quality*. The same applies to other items: When we ask "what is being 1.50 meter long?" we will end up with the concept of *Quantity*. And when we ask "what is being Socrates?" we ascend from man to mammal to vertebrate to animal to organism to.... *Second Substance*.<sup>19</sup>

### **1.5. Ontological patterns of medieval understanding of Concept of Substance:**

All these questions concern a particular first substance, and the answers are given in terms of second substance and accidents in their most generalized form. In this way we arrive at the most general concepts concerning the being of a thing. Those concepts form a logically irreducible diversity. But because the items which are signified by those concepts are all united in an individual that means, every time in one and the same individual, for example Socrates), they must somehow form a unity. And because Metaphysics is primarily about existing individual beings (uniform things), and only secondarily about concepts, Metaphysics says that those items, signified by those concepts, severally, but also together, form an *analogical* unity. Analogical because 'being', which is convertible with unity, is predicated of them differently. For example a color, say red, is only in an analogical sense called a being, it always exists in something else which is being in a primary sense.

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<sup>19</sup> Summa theological vol 1 p.66

It's now time to sum up the basic questions about a first substance, the Subject leading to Aristotle's famous 10 Categories:

- What the Subject is: **SECOND SUBSTANCE**, for ex. it is (a) human, (a) horse.
- What the measure of the Subject is: **QUANTITY**, for ex. it is 2 or 3 yard.
- What the disposition of the Subject is: **QUALITY**, for ex. it is white, skilled in languages.
- To which the Subject stands in relation with: **RELATION**, for ex. double, half, larger.
- What the Subject has: **HABIT**, for ex. having shoes on, being armed.
- When the Subject is: **POINT OF TIME**, for ex. yesterday, in the year before.
- Where the Subject is: **PLACE**, for ex. in the Lyceum, on the market.
- What the inner orientation of the Subject is: **ORIENTATION**, for ex. lying, sitting.
- What the Subject is doing: **ACTION**, for ex. it cuts, burns (something else).
- What the Subject undergoes: **PASSION**, for ex. it is being cutted, it is being burned.

It is not once and for all established that indeed this is a list of the highest concepts, but it will certainly stimulate the search for them. Especially the categories of Second Substance, Quantity, Quality and Relation are most important. And when they really are the highest concepts, then they cannot be defined, because a definition of a concept requires, among other things, a still higher concept.

Within this scheme there is some more structure to be detected. Thereby it is instructive to realize that the scheme is a scheme of basic *predicates*, and every predicate signifies something in the real world, *about* the first substance, the individual thing, which we can denote here as the *Subject*. Letting this internal structure come out, let's look at a more detailed version of this scheme of basic predicates.

#### THE PREDICATE SIGNIFIES:

1. The Essence of the Subject. This Essence is the **SECOND SUBSTANCE**.
2. Not the Essence of the Subject, but something else. Such predicates are Accidents.
  1. Something *in* the subject,
    1. In an *absolute* sense,

1. Delimitation of *Matter*. (Matter is one of the two principles of the Essence, the other one is Form). This delimitation is in fact a fenotypical manifestation of Matter, and can be denoted as **QUANTITY**.
2. Fenotypical manifestation of the *Form*. Form manifests itself as a *configuration*, and such a configuration can be denoted as **QUALITY**.
2. In a *relative* sense, co-involving something else. Such a predicate can be denoted as **RELATION**.
2. Points to something else, lying *outside* the Subject,
  1. But only *partially* so,
    1. Whereby the Subject is the *starting term*. Such a predicate can be denoted by **ACTION**.
    2. Of which action the Subject is the *end term*. Such a predicate can be denoted by **PASSION**.
  2. (Pointing to something else) *totally* so. But in such a way that that 'something else' contains in it the Subject (The subject is situated in that 'something else'),
    1. This 'something else' is an *extrinsic* measure of the subject,
      1. As far as the Subject is liable to *spatial* change,
        1. *Intrinsic*, according to the ordered dispersion of integral parts of the Subject (and thus its (variable) interior orientation). The corresponding predicate can be denoted as **ORIENTATION**.
        2. *Extrinsic*. That means in relation with surrounding objects (Location). The corresponding predicate can be denoted as **PLACE**.
        3. The *place* of a thing is the totality of its immediate surroundings.
      2. As far as the Subject is liable to change according to *time*. The corresponding predicate can be denoted as **THE POINT IN TIME**.
    2. No measure whatsoever of the Subject, but an *outfit* of the subject. The corresponding predicate can be denoted as **HABIT**.

Having established that essence and existence are distinct and that there exists a being whose essence is its existence, Thomas goes on to conclude that in immaterial substances, essence is related to existence as potency to act. The latter follows insofar as what receives existence stands in potency to the existence that it receives. But all things receive existence from the being whose essence is its existence, in which case the existence that any one finite thing possesses is an act of existence that actuates a corresponding potency: the essence. Thomas has thus shown that immaterial substances do indeed have an element of potency, but this need not be a material potency.

Notice that here Thomas correlates essence and existence as potency and act only *after* he has concluded to the existence of a being whose essence is its existence as God. One wonders then whether or not essence and existence can be related as potency and act only on the presupposition of the existence of God. Thomas could very well have focused on the efficiently caused character of existence in finite entities, and argued that insofar as existence is efficiently caused, existence stands to that in which it inheres as act to potency, in which case the essence that possesses existence stands in potency to that act of existence. Therefore, Thomas need not presuppose the existence of God in order to hold that essence and existence are related as potency and act; all he need presuppose is (i) that essence and existence are distinct and (ii) that existence is efficiently caused in the essence/existence composite.

#### **1.6. Concept of substance in Modern philosophy: The centrality of the concept of substance: Descartes- contribution towards Modern philosophy.**

##### **Concept of Substance in Modern philosophy;**

When it comes to modern period of philosophy, late 16th and early 17th century Descartes was the prominent philosopher who made the discussion of substance is more debatable and approachable for the next philosophers.

As I have already mentioned in the introduction, this period marked as a turning point in the history of ideas. It was a time when the power of the Catholic Church was still great, but when old ideas

were being challenged through the growth of scientific inquiry. When Galileo pledged his support for the Polish astronomer Copernicus' idea that the sun was the Centre of the universe in a work published in 1632, he was soon after imprisoned by the inquisition. This event had a great effect on Descartes, and he put off publishing his philosophical work while he thought out the best way to introduce his ideas without incurring the wrath of the church.

*Meditations on the first philosophy*, it is in many ways as a restatement and refinement of ideas which Descartes has already developed in his earlier works, the main theme of which propels the narrative of the meditations is the search for certainty. Cleverly, Descartes presents the text as if it is an answer to the theological sceptics and unbelievers who have questioned such things as whether there is a god, and whether the soul exists. However, in doing this, he also sets out his method for finding the truth in the sciences. In this way, Descartes is also hoping to release the hold that the church dogma and the followers of Aristotle, and scholastic philosophy in general, have had over the development of philosophy and science, and at the same time to establish a way in which science, philosophy, and religion can coexist in harmony.

However, many of these first principles were themselves based on the speculations, and under certain circumstances, could be in fact be seen to be wrong. Thus Descartes saw his first task as being to utilize certain skeptical arguments in order to expose these false assumptions, and ultimately arrive at the true first principles.

René Descartes (1596–1650) was a French scientist, philosopher and Roman Catholic of the Enlightenment period who is often considered to be the founder of modern philosophy, breaking away from the ways of the Middle Ages. Descartes departs from the philosophy of scholasticism with a concept of universal doubt. He put much faith in the scientific method as a source of knowledge. Descartes was famous for the idea of "Cogito, ergo sum"<sup>20</sup> (Originally, both meaning "I think, therefore I am") meaning that any thinking being rather promptly asserts and proves its own existence, if only to itself. Descartes wanted to reconstruct his own beliefs on a purely rational basis, and began by doubting everything he believed. He arrived at a single piece of knowledge

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<sup>20</sup> The meditations, first philosophy Rene Descartes., p.6

that he could not reasonably doubt, which is "I think, therefore I am", an argument often referred to as "the Cogito".

In his attempt to rebuild his beliefs, Descartes also sought to prove the existence of God through the idea of God in the mind of a thinking being. He also accepted the ontological proof of God that had been previously described by St. Anselm. Following this assertion, he believes the reality of the physical world as we know it through the conclusion that God would not try to fool the thinkers with illusions. For Descartes, the physical world and the human mind are completely distinct entities, connected only through God.

Philosophers generally agree that Descartes was fundamentally unable to reconstruct his beliefs in a purely rational manner, and still hold that the Cogito may be the only knowledge that we can hold from reason alone. The response to the perceived failure of Descartes' work has been mixed. Later Enlightenment philosophers, such as Kant sought to hold onto the values of the Enlightenment thinking, chiefly that human beings know things primarily through reason. Other philosophers, particularly David Hume and Thomas Reid, rejected the foundation of Descartes' argument, in favor of the view that certain empirical assumptions are necessary for knowledge.

Despite the general failure of Descartes' overall goal, his work sparked a great transition in the direction of philosophy and has great influence on philosophical work today. Additionally, René Descartes made several advances in science and mathematics, particularly in geometry and algebra.

Descartes, Spinoza, and Leibniz illustrate well the range of diverse outcomes that may result from an effort to understand the world through a priori knowledge. If their systems of thought seem implausibly remote from the world of ordinary experience, it may help to remember that modern science leads to a similar result. Once we grant that the reality of things may be quite different from the way they appear to us, only the internal coherence of the scheme of thought makes much difference.

This chapter explores mostly on the historical background of my research study and it made me to think that the question of substance is old enquiry and it will continues to till date in various forms of inquiring it in different contexts.

## Chapter 2

### Descartes' Concept of Substance.

Descartes was led to his dualistic theories in part from his most famous philosophical endeavor to place into doubt all that could be doubted in the hope of arriving at a basic, undeniable truth. That resulted in his famous '*Cogito ergo sum*' I think, therefore I am. Descartes could doubt the existence of the physical world and that even his own body actually existed, but he could not doubt the idea that his mind existed because *doubting is a thought process*<sup>21</sup>. The very act of doubting one's existence proves that one actually exists; otherwise, who is doing the doubting?

Through his process of doubting, he recognized that, regardless of what the changeable physical world was really like, his mind was still whole and unchanged, and therefore somehow separate from that physical world. Descartes also believed that man was the only dualistic creature. He placed animals in the realm of the purely physical, mechanistic world, acting purely on instinct and on the laws of nature.

Descartes believed in a *mechanistic* view of the material world that matter goes about its business and follows its own laws, except when it is interfered with by the mind. Man's mind, then, simply "pulls the levers" of the body to do its bidding. Exactly how the nonphysical mind interacts with the physical body is a point of contention. Descartes believed that the *pineal gland* in the brain was the locus of interaction between the mind and body because he believed that this gland was the only part of the brain that wasn't a duplicate.

It's important to remember that, for Descartes, the *brain* and the *mind* are not the same thing. The brain serves, in part, as a connection between the mind and the body, but because it is a physical, changeable thing, it is not the actual mind. Man's mind is whole and indivisible, whereas his body can be changed. You can cut your hair, remove your appendix, or even lose a limb, but that loss in no way reduces your mind. *Dualism*, simply put, is the belief that something is composed of two fundamentally different components, and it was around long before Descartes put pen to page.

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<sup>21</sup> Descartes, R., *The Philosophical Writings of Descartes*, trans. J. Cottingham, R. Stoothoff, D. Murdoch, Cambridge: Cambridge University Press. 1985, p.18

Cartesian Dualism deals specifically with the dual existence of man, Descartes believed that a man consisted of Matter: The physical stuff that walks, talks, and plays the accordion. Mind: The nonphysical substance (sometimes equated with the *soul*) that thinks, doubts, and remembers the tune to "Lady of Spain."

### **2.1. Substance as Definition:**

The notion of Substance lies at the heart of rationalist metaphysics. The term has a faintly archaic ring: it is very unusual to find discussions about substance in modern philosophical work, and the notion plays no role in science anymore- except in the informal sense, meaning 'a kind of stuff' as when a chemist says 'the substance changed color on being heated'. But questions about substance, in seventeenth century, were questions about the ultimate constituents of the universe, or the ultimate nature of reality; and though the term 'substance' has lost its appeal, these questions certainly have not.

The modern reader is nevertheless apt to be skeptical about the value of seventeenth century debate about substance. Some of our reservations may arise from seeing the very diversity of the theories which were put forward.

In order to be properly understood and evaluated, however the theories of Descartes, Spinoza and Leibniz need to be seen in context. The preoccupation with substance in seventeenth century did not spring up out of nothing, but represented a continuation of a long philosophical tradition with its roots in Aristotle.

For Aristotle, as for Plato, philosophical understanding was seen as dependent on the possibility of identifying something stable and permanent, despite a world of constant change and alteration. One way in which Aristotle defined 'substance' was as that which endures through change: although something may be F today and not- F tomorrow, there is nonetheless an underlying subject which remains the same. The permanent underlying properties of a thing were said to be its essential properties; the notion of substance was thus linked to the idea of a thing's enduring essence or 'essential nature'.

Aristotle also approached the concept of substance from a logical point of view. In the ‘Categories’<sup>22</sup> he suggested that something counts as a substance if it is the subject of predicates, but cannot itself be predicated of something else. A substance is thus regarded as that which exists on its own, or has independent existence.

This cluster of notions of substance as the enduring subject of change, as essence or nature, as the subject of predication, and as that which has an independent existence-had become deeply ingrained into the thought patterns of the sixteenth and seventeenth centuries, though different thinkers attached varying importance to different elements of the cluster.

But even those who saw themselves as radically opposed to the Aristotelian-scholastic world view often retained much of its intellectual furniture. This is fully evident from the definition of substance which Descartes offers in the *Principles of Philosophy*- a definition which exactly reflects the concept of substance as that which has independent existence.

For Descartes the term ‘substance’ we understand only a thing that exists in such a way that it needs nothing else in order to exist. For that reason the term ‘substance’ does not apply to god and to other substances univocally, as they say.

Just as there is no sunlight without the sun, so nothing can exist without the cooperation of god. Without that cooperation, all created things would go to nothing. But a created thing may still be called a substance; for by this ...we mean only that it is the sort of thing that can exist independently of any other created thing. (Descartes letter to ‘Hyperaspistes’, August 1641).<sup>23</sup>

This notion of independence also plays a crucial role in Spinoza’s account of substance and in his construction of a monistic theory of reality. Thus a substance, for Spinoza, cannot be causally dependent on anything else, but must be -its own cause. (Ethics I, Prop.6 and 7.)<sup>24</sup>

It is thus no surprise that, for example, to find the notion of that which is a ‘subject of predication’ playing a key role in Leibniz’s Theory of substance. In his ‘Discourse on Metaphysics’, Leibniz

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<sup>22</sup> *The Complete Works of Aristotle: the revised Oxford translation*, 2 volumes, J. Barnes (ed.), Princeton: Princeton University Press. 1984, p.27

<sup>23</sup> John Cottingham, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny ed. and Trans. *The Philosophical Writings of Descartes*, 3 vols., Cambridge: Cambridge University Press, 1984-1991 p.25

<sup>24</sup> *Ibid.*, p.29

begins his inquiries with the observation that ‘when several predicates are attributed to one and the same subject, and this subject is not attributed to any other, one calls this subject an individual substance’. (G P IV. 432 P.18) <sup>25</sup>

This brief list of Aristotelian and Scholastic echoes could undoubtedly be extended much further; and although by the different reading of these thinkers will give a clear idea about how they traced the ways in which the views of Descartes, Spinoza and Leibniz diverge on the question of what counts as a substance, what should also become clear is the extent to which these divergent views were developed from strikingly similar sets of conceptual equipment.

In establishing his own existence, so long as he is thinking, Descartes formed a conception of himself as a ‘res cogitans’, a thinking thing. He explains more of that it comprises the whole range of conscious activity.

However, Descartes is not yet ready to make any assertions about the physical universe. He is simply aware first of himself as a thinking substance, and now, secondly, of God, the supremely powerful substance who created him and placed the idea of himself within him ‘to be as it were, the mark of the craftsman stamped on his work’. Thus, Descartes established the existence of three substances: First, himself, res cogitans or thinking substance; second, God, the infinite substance who created him; and third, matter or extended substance.

With regard to created substance, Descartes asserts, have two clear and distinct notions or ideas- one of thinking substance, the other of extended substance. Extension and thought are the ‘principal attributes’ of matter and mind respectively. Each substance has one principal property which constitutes its nature or essence and to which all its other properties are referred. Thus extension in length, breadth and depth constitutes the nature of corporeal substance, and thought constitutes the nature of thinking substance. Everything else which can be attributed to body presupposes extension and he is merely a mode of an extended thing; and similarly whatever we find in mind is simply one of the various modes of thinking (Principles I, 53).<sup>26</sup>

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<sup>25</sup> Ibid., p.36

<sup>26</sup> John Cottingham, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny ed. and Trans. *The Philosophical Writings of Descartes*, 3 vols., Cambridge: Cambridge University Press, 1984-1991 p.66

Here in a nutshell is Descartes's celebrated 'dualistic' theory of substance, according to which all the various features we attribute to things are reducible to 'modes' or modifications either of thinking stuff or of extended stuff. But on closer examination this apparently very tidy schema begins to lose some of its symmetry.

The first signs of asymmetry between *res cogitans* and *res extensa* emerge when one scrutinizes Descartes account of the physical world. For instance in the case of what Descartes calls 'corporeal substance', it turns out that what is involved is not the common sense (Aristotelian) world of a plurality of individual substances- horses and trees and stones-but rather a single, indefinitely modifiable, indefinitely extended stuff which is characterized simply by the fact that it is 'extended': Descartes says that Matter or body in general is the universal corporeal substance that occupies all conceivable space, according to him there are is a plurality of independent substances.

I regard the minute parts of terrestrial bodies as being all composed of one single kind of matter, and believe that each of them could be divided repeatedly in infinitely many ways, and that there is no more difference between them than there is between stones of various different shapes cut from the same rock (Meteorology: at VI.239; A L Q I. 726)<sup>27</sup>.

The human body, in so far as it differs from other bodies is simply made up of a certain configuration of limbs and other accidents of this sort, whereas the human mind is not made up of any accidents in this way, but is a pure substance. For even if all the accidents of the mind change, so that it has different objects of the understanding and different desires and sensations, it doesn't on that account become a different mind; whereas a human body loses its identity merely as a result of a change in the shape of some of its parts. And it follows from this that while the body can very easily perish, the mind is immortal by its very nature. (At VII. 14; CSM II. 10).<sup>28</sup>

Like many of his contemporaries (e.g., Galileo and Gassendi), Descartes devised his mechanical theory in large part to refute the widely held Aristotelian-based Scholastic explanation of natural phenomena that employed an ontology of "substantial forms" and "primary matter". Briefly, Scholastic natural philosophy viewed a material body as comprising both an inert property-less

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<sup>27</sup> Descartes, Spinoza, Leibniz: *the concept of substance in seventeenth century metaphysics*, London and New York: Routledge, 1993, p.18

<sup>28</sup> John Cottingham, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny ed. and Trans. *The Philosophical Writings of Descartes*, 3 vols., Cambridge: Cambridge University Press, 1984-1991 p.89

substratum (primary matter) and a quality-bearing essence (substantial form), with the latter providing the body's causal capacities. A quantity of matter, for example, possesses weight, color, texture, and all of the other bodily properties, only in virtue of being conjoined with a determinate form of a billiard ball, chair, etc. Descartes admits that he had earlier held such a view of gravity, envisioning the substantial form as a kind of goal-directed (teleological) mental property of bodies: "what makes it especially clear that my idea of gravity was taken largely from the idea I had of the mind is the fact that I thought that gravity carried bodies towards the center of the earth as if it had some knowledge of the center within itself. For this surely could not happen without knowledge, and there can be any knowledge except in a mind" (AT VII 442).<sup>29</sup> In a revealing passage from *The World*, Descartes declares the Scholastic hypothesis to be both an unintelligible and inadequate methodological approach to explaining natural phenomena:

If you find it strange that I make no use of the qualities one calls heat, cold, moistness, and dryness..., as the philosophers [of the schools] do, I tell you that these qualities appear to me to be in need of explanation, and if I am not mistaken, not only these four qualities, but also all the others, and even all of the forms of inanimate bodies can be explained without having to assume anything else for this in their matter but motion, size, shape, and the arrangement of their parts (AT XI 25–26).<sup>30</sup>

Descartes' plan is to reduce the class of metaphysically suspect properties, such as heat, weight, taste, to the empirically quantifiable attributes of size, shape, and motion. In other words, Descartes intends to replace the "mentally" influenced depiction of physical qualities in Scholastic natural philosophy with a theory that requires only the properties of extension to describe the manifest order of the natural world. Consequently, Descartes was an early exponent of what came to be known as the "primary/secondary" property distinction, a concept that was very much "in the air" among the critics of Scholasticism.

Descartes' many hypotheses concerning space and body are best appreciated when viewed as a continuation of a long debate within Medieval/Renaissance philosophy centered upon the Aristotelian dictum that whatever possessed dimensionality was body (see, Grant 1981). While

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<sup>29</sup> John Cottingham, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny ed. and Trans. *The Philosophical Writings of Descartes*, 3 vols., Cambridge: Cambridge University Press, 1984-1991 p.22

<sup>30</sup> Ibid, p.41

some philosophers, such as Telesio, Campanella, and Bruno, held space to be always filled with matter (i.e., a plenum) yet somehow independent of matter, others, like Patrizi and Gassendi, endorsed a more absolutist notion that allowed spaces totally devoid of matter (i.e., vacuum). Rejecting these anti-Aristotelian ideas of empty space, Descartes equated the defining property, or “essence”, of material substance with three-dimensional spatial extension: “the extension in length, breadth, and depth which constitutes the space occupied by a body, is exactly the same as that which constitutes the body” (Pr II 10). Consequently, there cannot exist a space separate from body (Pr II 16), since all spatial extension simply is body and he rejects the possibility of a vacuum that is not extended. If, for example, God removed the matter within a vessel, then the sides of the vessel would immediately become contiguous (but not through motion; Pr II 18). Descartes’ actual concept of “space” can be regarded as a sort of conceptual abstraction from this bodily spatial extension, which he also dubs “internal place”:

We attribute a generic unity to the extension of the space of a body, so that when the body which fills the space has been changed, the extension of the space itself is not considered to have been changed or transported but to remain one and the same; as long as it remains of the same size and shape and maintains the same situation among certain external bodies by means of which we specify that space. (Pr II 10F).

Descartes proposed his views on *Treatise on World*, where he talks he treatise initially concerns itself with the nature of light, but in the course of its discussion touches on pretty much everything Descartes has studied in nature: the sun and stars, as the source of light; the sky, as a transmitter of light; heavenly bodies, as objects that reflect light; objects on earth, that have color, are transparent, or luminous; and human beings, as perceivers of light.

In order to avoid theological controversy, Descartes says nothing about this world, but rather speaks of an imaginary world that he posits to be created by God as a random chaos of matter. God then imposes certain laws of nature that govern the behavior of this matter, and aside from that, leaves this imaginary world untouched.

Descartes treatise first describes matter, showing it to be easily comprehensible, and shows that the laws of nature follow from God's perfection and would be the same in any world. It then explains how these laws would cause this chaos of matter to separate into mostly open space, with

planets, stars, and light, just the way it is in this world. In dealing with the earth, the treatise shows how all things should tend toward its center, how there should be oceans and land, tides and rivers, plants and minerals, and how fire should work.

Descartes does not mean to say that this is how the real world was actually formed professing that his beliefs are in accordance with holy scripture but only that the laws of nature are such that they could have made the world the way it is out of a chaotic swirl and without God's subsequent interference.

This brief summary of Descartes' account of substance raises a number of deeper questions and controversies. One central question that naturally arises is why Descartes thinks that extension and thought are the most general properties of substances. For a detailed discussion of Descartes' reasons see the IEP entry *René Descartes: The Mind-Body Distinction*. This entry will briefly consider the role of embodied human beings in Descartes metaphysics, what Descartes means in calling substances independent, and a related controversy concerning the number of material substances to which Descartes is entitled.

## **2.2. Kinds of Substances:**

It is often said that Descartes given two different definitions of substance, in terms of a notion of independent existence.

To start with “by Substance we can understand nothing other than a thing which exists in such a way as to depend on no other thing for its existence”. Strictly speaking ‘there is only one substance which can be understood to depend on no other thing whatsoever, namely God.

So long as they ‘need only the ordinary concurrence of god in order to exist’ and are not additionally dependent on some God-dependent created thing, they do; but they are properly termed as ‘created substance’.

But Descartes also characterizes ‘substance’ as what has properties, qualities or attributes. The term applies to ‘everything in which whatever we perceive immediately resides, as in a subject, or

to everything by means of which whatever we perceive exists; 'whatever we perceive means any property, quality, or attribute of which we have a real idea.

The conception of substance as bearer of 'two' accounts; one, is about properties, qualities, attributes, modes and accidents. Second, is about what such things 'belongs to' or 'inhere in'.

### **2.3. God as Absolute Substance:**

In an attempt to break out of the enclosed realm of his subjective consciousness, Descartes proceeds, in the Third Meditation, to make a survey of the ideas he finds within consciousness; the 'first and most important' idea he becomes aware of is the idea of God. By this term 'God' he tells us, he means 'a substance that is infinite, eternal, immutable, independent, supremely intelligent, supremely powerful, and which created both myself, and everything else that exists.

I will now close my eyes, block my ears and shut down all my senses. I will erase from my thought all images of physical things or, since this is almost impossible, I will regard them as nothing, as false and empty, addressing only myself and looking more deeply into myself. I will try to make myself gradually better known and more familiar to myself. I am a thinking thing, that is, something which is doubting, affirming, denying, understanding a few things, not knowing many, willing, not willing, even imagining and sensing. As I already mentioned, even if the things that I sense or imagine happened not to exist, I'm still certain that the modes of thinking that I call sensations and imaginings, insofar as they are simply certain modes of thinking, are in me. And in these few things I have listed everything that I know or, at least, what I have so far noticed that I know.

### **2.4. Mind-Body as Created substance:**

One of the deepest and most lasting legacies of Descartes Philosophy is his thesis that mind and body are really distinct a thesis now called "mind-body dualism." He reaches this conclusion by arguing that the nature of the mind (that is, a thinking, non-extended thing) is completely different from that of the body (that is, an extended, non-thinking thing), and therefore it is possible for one to exist without the other. This argument gives rise to the famous problem of mind-body causal interaction still debated today: how can the mind cause some of our bodily limbs to move (for

example, raising one's hand to ask a question), and how can the body's sense organs cause sensations in the mind when their natures are completely different? This article examines these issues as well as Descartes' own response to this problem through his brief remarks on how the mind is united with the body to form a human being. This will show how these issues arise because of a misconception about Descartes' theory of mind-body union, and how the correct conception of their union avoids this version of the problem. The article begins with an examination of the term "real distinction" and of Descartes' probable motivations for maintaining his dualist thesis.

## **2.5. The Method of Doubt:**

In the selection from the *Meditations on First Philosophy* that we read, Descartes argues that the mind is something distinct from anybody. But the *Meditations* begins with a discussion of a topic seemingly far removed from the nature of the mind: the question of whether we can be certain of the truth of any of our opinions. What we have to see is how this question is related to questions about the relationship between mind and body.

Descartes begins by noting that his opinions up to this point have been based on his senses, but that we cannot be certain that our senses do not deceive us. This is in part because we cannot be certain that what we think of as our sensations of the world are not a dream:

"How often have I dreamt that I was in these familiar circumstances, that I was dressed, and occupied this place by the fire, when I was lying undressed in bed? At the present moment ...I look upon this paper with eyes wide awake; ...but I cannot forget that, at other times I have been deceived in sleep by similar illusions; and, attentively considering those cases, I perceive so clearly that there exist no certain marks by which the state of waking can ever be distinguished from sleep, that I feel greatly astonished ..." (1.7)<sup>31</sup>

So, Descartes argues, there seems to be some sense in which I am less than certain about the existence of the bodies I seem to be perceiving. It seems to me that there is a computer monitor in front of me right now; but, because "there exist no certain marks by which the state of waking can

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<sup>31</sup> *Meditations on First Philosophy*, translated by John Cottingham, Cambridge: Cambridge University Press, 1996. P.45

ever be distinguished from sleep” I cannot be certain that I am not dreaming of a computer monitor rather than seeing one.

Descartes uses the figure of an ‘evil demon’ to make much the same point:

“ I will suppose, then, not that Deity, who is sovereignly good and the fountain of truth, but that some malignant demon, who is at once exceedingly potent and deceitful, has employed all his artifice to deceive me; I will suppose that the sky, the air, the earth, colors, figures, sounds, and all external things, are nothing better than the illusions of dreams, by means of which this being has laid snares for my credulity; I will consider myself as without hands, eyes, flesh, blood, or any of the senses, and as falsely believing that I am possessed of these ...” (1.12)<sup>32</sup>

The point of this, for our purposes, is not whether it is plausible or reasonable to believe that we are constantly being deceived by an evil demon; we can assume that this is not a reasonable thing to believe. Rather, the important point is that, by reflecting on scenarios like dreaming and being deceived by an evil demon, it seems possible to doubt whether any of the external, physical things which we seem to perceive really do exist.

## **2.6. What cannot be doubted?**

At the beginning of the second Meditation, Descartes wonders whether there is anything whose existence cannot be doubted:

“I suppose, accordingly, that all the things which I see are false (fictitious); I believe that none of those objects which my fallacious memory represents ever existed; I suppose that I possess no senses; I believe that body, figure, extension, motion, and place are merely fictions of my mind. What is there, then, that can be esteemed true? Perhaps this only, that there is absolutely nothing certain.” (2.2)<sup>33</sup>

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<sup>32</sup> Ibid., p.53

<sup>33</sup> *Meditations on First Philosophy*, translated by John Cottingham, Cambridge: Cambridge University Press, 1996. P.56

But he quickly finds that this is not the case; even though he can doubt the existence of any external thing, he cannot doubt his own existence:

“But I had the persuasion that there was absolutely nothing in the world, that there was no sky and no earth, neither minds nor bodies; was I not, therefore, at the same time, persuaded that I did not exist? Far from it; I assuredly existed, since I was persuaded. But there is I know not what being, who is possessed at once of the highest power and the deepest cunning, who is constantly employing all his ingenuity in deceiving me. Doubtless, then, I exist, since I am deceived; and, let him deceive me as he may, he can never bring it about that I am nothing, so long as I shall be conscious that I am something. So that it must, in fine, be maintained, all things being maturely and carefully considered, that this proposition (pronunciation) I am, I exist, is necessarily true each time it is expressed by me, or conceived in my mind.” (2.3)<sup>34</sup>

The same line of reasoning appears to carry over to particular episodes of thinking. Just as an evil demon cannot deceive me about my own existence, he cannot deceive me about the fact that I am being deceived.

## **2.7. Why the mind cannot be identical to any Body:**

So far, we seem to have two results: that it is possible to doubt whether any external, physical things exist, but that it is not possible to doubt that oneself, or one’s own mental episodes, exist. At this point, you might ask: so what? What does this show about the relationship between the mind and the body?

Descartes is most explicit about this in paragraph 9 of Meditation 6:

“And, firstly, because I know that all which I clearly and distinctly conceive can be produced by God exactly as I conceive it, it is sufficient that I am able clearly and distinctly to conceive one thing apart from another, in order to be certain that the one is different from the other, seeing they may at least be made to exist separately, by the omnipotence of God; and it matters not by what power this separation is made, in order to be compelled to judge them different; and, therefore, merely because I know with certitude that I exist, and because, in the meantime, I do not observe that aught necessarily belongs to my nature or essence beyond my being a

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<sup>34</sup> Ibid., p.58

thinking thing, I rightly conclude that my essence consists only in my being a thinking thing or a substance whose whole essence or nature is merely thinking. And although I may, or rather, as I will shortly say, although I certainly do possess a body with which I am very closely conjoined; nevertheless, because, on the one hand, I have a clear and distinct idea of myself, in as far as I am only a thinking and unextended thing, and as, on the other hand, I possess a distinct idea of body, in as far as it is only an extended and unthinking thing, it is certain that I, that is, my mind, by which I am what I am, is entirely and truly distinct from my body, and may exist without it.”<sup>35</sup>

So see how this argument works, it helps to break it down into steps. First, Descartes says that if he can “clearly and distinctly” conceive some state of affairs, then God could create that state of affairs. So, if he can clearly and distinctly conceive some state of affairs, then that state of affairs is *possible*. The distinction between possible and impossible situations, and contingent and necessary truths.

So, if Descartes is right, we can show that it is possible that x and y are distinct things by clearly and distinctly conceiving of them as distinct. What he wants to show is that it is possible that mind and body are distinct; so what he needs to show is that he can clearly and distinctly conceive of mind and body as distinct. But, in a sense, he has already shown this. In Meditation 1, Descartes doubted the existence of material bodies; so, he was conceiving of bodies not existing. But, in Meditation 2, he found that he could not doubt his own existence. So, in this method of doubt, he was conceiving of his mind as existing, but of bodies as not existing. So he was conceiving of his mind as distinct from his body. So, if the above is correct, it follows that it is possible that his mind is distinct from his body.

But what we want to know is not whether it is possible for one’s mind to be distinct from one’s body; what we want to know is whether minds *really are* distinct from bodies. How can we get from one thesis to the other? The necessity of identity as bridging this gap in the argument.

We can think of Descartes’ argument for the distinctness of mind and body as breaking down into steps as follows:

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<sup>35</sup> *Meditations on First Philosophy*, translated by John Cottingham, Cambridge: Cambridge University Press, 1996. P.72

1. If I can clearly and distinctly conceive of such and such being the case, God could make such and such the case.
  2. If God could make such and such the case, then such and such is possible.
  3. If I can clearly and distinctly conceive of such and such being the case, then such and such is possible. (1,2)
  4. I can clearly and distinctly conceive of the mind existing without the body.
  5. I can clearly and distinctly conceive of a case where the mind  $\neq$  the body. (4)
  6. It is possible that the mind  $\neq$  the body. (3,5)
  7. If  $a = b$ , then necessarily  $a = b$ .
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C. The mind  $\neq$  the body.

Is this argument valid? Is it sound?

Can you see how to run a parallel argument to show that particular mental events like certain thoughts, or pains are not identical to any material bodies, or physical events?

## **2.8. The nature of the mind/body distinction:**

So we know that Descartes thinks that the mind is something other than the body; but what, exactly, does that mean? One way to answer this question is to get clearer on what Descartes thinks bodies

are. Descartes often speaks of bodies as extended; part of what he means is expressed in the following passage:

“By body I understand all that can be terminated by a certain figure; that can be comprised in a certain place, and so fill a certain space as therefrom to exclude every other body.”<sup>36</sup>

One of the defining aspects of bodies is that they are extended in space: that they have certain dimensions. Should we conclude from this that Descartes thinks that bodies do not exist in space that they have no dimensions? Does this make sense? Does it follow that they are not located anywhere?

## **2.9. Descartes’ view of the relationship between mind and body**

So far, we’ve examined Descartes’ argument that the mind is not identical to any kind of body. But this tells us what the relationship of mind to body is not; it does not tell us what it is. In one place, Descartes gives his view of the relationship of mind and body by an analogy:

“Nature likewise teaches me by these sensations of pain, hunger, thirst, etc., that I am not only lodged in my body as a pilot in a vessel, but that I am besides so intimately conjoined, and as it were intermixed with it, that my mind and body compose a certain unity.” (6.13)<sup>37</sup>

What can we take from the idea that the relationship between mind and body is akin to the relationship between pilot and vessel? One thing a pilot does is control the vessel; by steering, pilots cause vessels to do things. So we would expect Descartes to think that minds sometimes cause bodies to do things. And this is what he thinks (6.12-13). Why this fits well with common sense.

It seems, then, that we can sum up the main points of Descartes’ dualist view of the relationship between mind and body as follows:

1. The mind is not identical to any type of body. Nor are particular mental events (particular episodes of thinking, feeling, etc.) identical to any bodies.
2. Bodies are defined by Descartes as things which have extension. Since minds are not identical to any bodies, minds do not have extension. So minds do not exist in space.

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<sup>36</sup> *Meditations on First Philosophy*, translated by John Cottingham, Cambridge: Cambridge University Press, 1996. P.88

<sup>37</sup> *Ibid.*, p. 92

3. Bodies sometimes cause effects in minds, and minds sometimes cause effects in bodies.

### **2.2.1. Varieties of dualism**

We can separate out two parts of Descartes view, via the distinction between objects or substances on the one hand, and properties on the other. A way to get a handle on this distinction via the distinction between names and predicates.

Corresponding to the distinction between substances and predicates is a distinction between two kinds of dualism. The *property dualist* says that mental properties like *feeling a pain* or *thinking about food* are not identical to any physical property. The *substance dualist* says that there are mental substances minds which are not identical to any physical things. Descartes was both a substance dualist and a property dualist. In this first part of the course, where we focus on the mind-body problem, the most important part of his view is his property dualism. Though Descartes himself spends most of his time talking about substance dualism. In the second part of the course, when we discuss the nature of persons, we'll return to substance dualism.

One good question at this point is: what is the relationship between substance dualism and property dualism? If substance dualism is true, does it follow logically that property dualism must be true as well? How about the other way around?

Another distinction between kinds of dualism is worth making here. We noted above that Descartes thought that minds could cause effects in bodies, and vice versa. So, despite thinking that minds and bodies are different sorts of things, Descartes thought that minds and bodies could interact. For this reason, his view is sometimes called *interactionist dualism*.

But not all dualists think this. Some dualists are *epiphenomenalists*: they think that mental events are caused by physical events, but that mental events never have any physical effects. So the line of causation always goes from physical to mental, and never in the reverse direction. Can you think of any reason why someone would find this view attractive? Why might it be preferable to interactionism? Does the view have any disadvantages? Can the epiphenomenalist, for example, give any explanation of how mental features could have evolved, if they never have any effects in the physical world?

A third variety of dualism is *parallelism*, which is the view that, although mental and physical events run 'in parallel', there are no causal connections between them. Why might one be attracted to this view? How could the correlations between mental and physical events be explained by a parallelist, if at all?

### **2.2.2. A New Problem of Error**

But sometimes nature does steer me wrong:

When I have dropsy, I am thirsty although I shouldn't drink.

When I have phantom limb pain, I feel pain in limbs that are no longer there.

**The Solution:** This is an unavoidable 'design flaw' in humans. Sense perception happens by means of nerves 'pulling' on the pineal gland which somehow contacts the soul. This makes it possible for some 'pulls' to be misleading.

**How Mind and Body Interact:** "my mind is not immediately affected by all the parts of the body, but only by the brain, or perhaps even by just one small part of the brain [i.e., the pineal gland]" (101)<sup>38</sup>

The pineal gland is the 'go between' for mind and body.

**The Design Flaw:** "the nature of the body is such that whenever any of its parts can be moved by another part some distance away, it can also be moved in the same manner by any of the parts that lie between them" (101)<sup>39</sup>

**But this doesn't reflect badly on God:** "I can think of no better arrangement than that it produces the one sensation that, of all the ones it is able to produce, is most especially and most often conducive to the maintenance of a healthy man. ... Nothing else would have served so well the maintenance of the body".

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<sup>38</sup> Slowik, Edward. "Descartes and Individual Corporeal Substance," *British Journal for the History of Philosophy*, vol. 9 no. 1 (2001) p. 18

<sup>39</sup> Ibid., p.19

### **2.2.3. Proving Mind and Body are Distinct**

There are actually two arguments for this point.

(i) "All the things that I clearly and distinctly understand can be made by God such as I understand them. For this reason my ability clearly and distinctly to understand one thing without another suffices to make me certain that the one thing is different from the other, since they can be separated from one another, at least by God."

If two things are logically distinct, they are actually distinct?

In the Second Meditation, I judged that "nothing else belongs to my nature or essence except that I am a thinking thing, [therefore] I rightly conclude that my essence consists entirely in my being a thinking thing." (96) <sup>40</sup>

Is this convincing?

(ii) "There is a great difference between a mind and a body in that a body, by its very nature, is always divisible. On the other hand, the mind is utterly indivisible. For when I consider the mind ... I cannot distinguish any parts within me; rather, I understand myself to be manifestly one complete thing." (100-1)<sup>41</sup>

What about the will and the understanding?

These cannot "be called 'parts' of the mind, since it is one and the same mind that wills, senses and understands."

"This consideration alone would suffice to teach me that the mind is wholly diverse from the body, had I not yet known it well enough in any other way."

Why bring up this additional proof?

Because of the payoff, if the soul is indivisible then presumably it's indestructible, since it can't be broken down. Think of Plato.

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<sup>40</sup> *Meditations on First Philosophy*, translated by John Cottingham, Cambridge: Cambridge University Press, 1996. P.50

<sup>41</sup> Slowik, Edward. "Descartes and Individual Corporeal Substance," *British Journal for the History of Philosophy*, vol. 9 no. 1 (2001) p. 54

The discussion of substance and its properties is much more complex than the discussion of eternal truths, but once all the terms are sorted out it is not that difficult to grasp. There are three terms that are crucial to Descartes' understanding of basic ontology: substance, principal attribute, and mode. A substance is just a self-subsisting thing. A principal attribute is a special property of a substance, the property that makes that substance the kind of substance that it is. ("Principal attribute" is just another way of saying "essence".) A mode is any other property of a substance.

Descartes defines a substance as a thing that does not depend on anything else for its existence. That is to say, substance is a self-subsisting thing. Strictly speaking, then, only God is really a substance, because everything else depends on God for its existence, according to Descartes' picture, not only does God initially bring us into existence, but he must continually recreate us at every instant. More loosely speaking, though, anything that depends only on God for its existence counts as a substance.

The first thing to realize is that according to Descartes there are only three substances in the world: there is God, there is mind, and there is body. Jell-O is not one substance and gold another; both are the same substance of body. Since a principal attribute is the property that makes a substance the kind of substance that it is, there are also only three principal attributes: we have no idea what God's principal attribute is (if he even has one), but the principal attribute of mind is thought, and the principal attribute of body is extension.

The second important thing to realize is that the distinction between substance and principal attribute is only conceptual. That is to say, we have two concepts, (i.e. "principal attribute" and "substance") but these two concepts do not actually correspond to two different things out in the world. There is no such thing as a substance without its principal attribute. Body cannot exist without extension, and mind cannot exist without thought. This makes perfect sense when you consider that the principal attribute makes the substance what it is. How could a substance exist, Descartes asks, without being any particular kind of thing? It is impossible. In fact, not only can a substance not exist without its principal attribute (a metaphysical claim), a substance cannot even be clearly conceived without its principal attribute (an epistemological claim). How can you

clearly conceive of something without clearly conceiving what sort of thing it is? The relationship between principal attribute and substance, then, is extraordinarily intimate.

The strong conceptual relationship between a substance and its principal attribute is what Descartes draws on in order to prove that the essence of mind is thought and the essence of body is extension. The proof of these claims rests on an unstated premise: P is the essence of S, if and only if I can conceive of S attributing only P to it. We can understand why Descartes would feel justified in asserting this premise given the strong conceptual relationship between a substance and its principal attribute. The principal attribute (or essence) is just that property that allows you to conceive of the substance. Whatever property that, all by itself, allows you to clearly conceive of the substance, then, must necessarily be the essence of that substance.

A mode, on the other hand, is much less intimately connected to a substance. A substance could exist without any particular one of its modes (though it could not exist without any modes at all). For instance, a substance could exist without being square, but it cannot exist without being shaped. A mode is actually just a particular way of *being* the principal attribute. A principal attribute is something determinable, (i.e. the property of extension or the property of thought) and a mode is a determinate way of being extended or thought for instance, square is a way of being extended and imagining a unicorn is a way of being thought.

Descartes' analysis of substance and principal attribute is probably the most important section of Part I. It is in defining this terminology that he lays the groundwork for his entire physics, by establishing the subject matter of that science. In defining physical substance entirely in terms of extension, Descartes is ensuring that the physical sciences can be conflated with the study of geometry. All properties of substance can be explained simply by appealing to the properties of geometric figures. It is in this discussion that we see Descartes at the height of his offensive attack on Scholastic philosophers.

Like the Scholastics, Descartes claims that substances are the most basic units of existence. Where he diverges is in claiming, first, that there are only three substances and, second, that substances and their essences have such a tight connection. According to the Scholastic view there were numerous substances, all composed of various combinations of the four elements. The essence of

a substance was the property that made the substance the sort of substance that it was, but aside from that important role it was no different from other properties. The further properties of a substance did not have any connection to the essence. For example, according to the Scholastics the essence of man was his rationality. However, man could also have qualities such as "pale" and "tall" that had nothing to do with this essence. In addition, according to the Scholastics, substance could survive the loss of its essence, though naturally not as that same sort of substance. So, for instance, if a man lost his rationality he would cease to be a man, but he would not cease to be a substance. He would just be a different sort of substance. It is by strengthening the connection between essence and substance that Descartes is able to so reduce the number of substances in the world. If a substance cannot be conceived of without its essence, there are very few candidates for essence and, correspondingly, few for substance. The only things we cannot conceive of are the logically impossible.

#### **2.2.4. The Existence of Material things:**

Part II of the *Principles* begins with a proof that the physical world exists. Since there would be little use in studying physics if this were not the case, it seems like a good starting point for a physics treatise. Descartes' proof, predictably, rests on the guarantee of clear and distinct perception. As he established in Part I, we have a clear and distinct perception of something that has extension. If there were nothing out in the world matching this perception, then God would be a deceiver. And we all know by now that this cannot be the case. We can be certain, therefore, that something with extension, that is, physical substance (i.e. body, or matter) exists.

Right after proving that physical body exists, Descartes takes a brief detour in principles II.2 and three, to talk about a particular type of matter that exists: our bodies. We can be sure that we have bodies, conjoined in a mysterious and intimate way to our minds, he tells us, because we have sensations such as pain. These sensations come to us unexpectedly, so they cannot simply be thought up by the mind. In addition, they clearly need to originate in something extended. Therefore, he concludes, our mind must be connected to a particular piece of matter. Sensory perceptions, he further tells us, are wholly intended only to act for the sake of this composite of mind and body. They are not supposed to supply the mind with fodder for intellectual ideas, but,

rather, they are supposed to direct the human composite toward pleasure and away from pain. If they are used only for this purpose, they will cease to mislead us in our pursuit of truth.

Descartes now moves on to the real meat of his physics. He begins by restating that the only thing included in the nature of body is extension. This time, however, he runs through a few other candidates for properties that we might think are included in the nature of body: hardness, color, and weight. Once again, his argument rests on claims of conceivability. We can conceive of extension without hardness, without color, without anything at all, except without extension. Only extension, then, is really a necessary component of body.

Descartes then tries to account for the fact that no one else seems to think that the nature of body consists in extension. People are misled in this matter, he tells us, by preconceived opinions regarding the process of rarefaction and the notion of empty space. Descartes spends a lot of time and energy on the notion of empty space, and so that concept will be treated in the following section, but he corrects our view of rarefaction fairly quickly.

Most people, Descartes claims, have a very misleading view of rarefaction. They believe that when a body is rarefied it possesses more extension than it did when condensed. This leads people to believe that the substance of a body is something entirely separate from the extension. According to this view, extension can be added without adding new body. In reality, though, any extension is just body.

The correct view of rarefaction takes care of this problem. Rarefaction does not involve gaining or losing extension, it merely involves changing shape. Taking up more or less space does not amount to having more or less extension, it merely amounts to being a different shape. A rarefied body is just like a sponge filled with water. When a sponge is filled with water, the gaps between its parts are filled in with other bodies (i.e. water particles), and so it takes up more space. However, there is the same amount of spongy matter present when the sponge is filled with water, as when it is dry. The same is true of all bodies when rarefied. What can happen is that other bodies (particles of various sorts) can come between the parts of its matter, thereby causing the body to take up more space, without actually gaining any extension.

Though Descartes is convinced that his physics is as simple as it gets, any Descartes student will be willing to attest to the fact that few concepts are harder to grasp than Descartes' concept of extension. His may well be a simple picture once you get past that crucial first step, but getting past that step is no easy task, actually, it is never a simple picture.

The best way to get clear on the notion of extension is to try to get clear on what the notion does and does not include. We have already seen that extension does not amount to shape. Shape and extension are two different things. In fact, as you might recall from Part I, shape is a mode of extension. So what does the notion of extension include? Descartes tells us in II.1 that extension is just length, breadth, and depth. This makes sense if you think about the common use of the term "extended." What does it mean to be extended? It just means to spread from one point to another. A line is extended in one direction: it has length. A plane is extended in two directions: it has length and breadth. A body is extended in three dimensions: it has length, breadth, and depth.

The next step is to ask what it is about this picture that makes the common conception of rarefaction impossible. Why can a body not lose any length, breadth, or depth? It seems clear that if you take a seven inch by five inch by one inch board and cut off three inches of length from it, the original board is losing some of its extension. Why is this any different from the common conception of condensation that Descartes is so eager to attack? The answer is that in the case of the board, we all admit that in cutting off the three inches we are creating two separate bodies. The three inches by two inches by one inch that was lost from the original board do not just cease to be a part of body just because they cease to be a part of that original board. They now define a new body: a body that is three inches, by five inches, by one inch. If you cut off another chunk from this board, you would create yet another body. No matter how small you cut the pieces, even if you just took off some shavings, you would never separate the dimensions from body since to have dimensions is what it means to be body. This is what Descartes means when he tells us in principle I.8 that the difference between quantity and substance is only conceptual. There is no such thing as three liters or twelve cubic feet, except insofar as there are bodies with this quantity of matter.

On the naïve view of rarefaction and condensation, on the other hand, it seems as if extension can just float free of body. It seems as if body is one thing and extension is another, so that extension can be lost from body without the creation of another body. That is why Descartes needs to show

that rarefaction does not involve losing extension at all. If you took a rarefied body and added together all of its matter, the quantity would be the same as in its condensed form. The only difference is that the parts of the matter are spread further from each other, separate by a different sort of matter.

This way of viewing extension provides a good enough level of understanding of body in order to tackle the next hurdle: the relationship between body and space.

### **2.3. Space and time and the concept of world in Descartes Understanding.**

A widespread misunderstanding of space is the other obstacle to the proper conception of body. Just like the misunderstanding of rarefaction, the misunderstanding of space leads us to believe that dimensions can exist independent of body. We generally believe that space is something empty, a kind of nothingness that exists between bodies. This nothingness, though, obviously has dimensions. Between my can of soda and my plate of food, there are three inches of space. Between the floor and the ceiling there is ten feet of space. Thinking of space as a nothingness that has dimensions leads us to conclude that extension in itself does not amount to body. Instead, we think that only the sensible objects floating in space the can of coke, the plate of food, the goal posts, the floor and ceiling are bodies. In other words, we think that in order to be body something not only needs extension, but it also needs sensible qualities such as color, hardness, etc.

Descartes' conception of space sets us straight. On Descartes' view space is nothing but insensible body. Body is only extension and the space between my can of soda and my plate of food has dimension just as truly as the can and plate do. Descartes gives two arguments for this claim. The first argument, found in I.11<sup>42</sup>, is simply a repetition of the argument for the claim that extension is the essence of body. Again, he asks us to try to conceive of body without color, hardness, or etc. There is no incoherence involved in any of these conceptions. Then, he asks us to conceive of body without extension. We find that it is impossible to do so. Extension, therefore, is the essence of body. Obviously, if it really is true that extension is sufficient for body, then anything extended must be body. Since space is extended, space, too, is body.

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<sup>42</sup> *The Geometry of René Descartes*, translated by David Eugene Smith and Marcia L. Lantham (New York: Dover Publications, 1954, p. 271

The second argument comes in principle I.16<sup>43</sup>. The claim that space is "nothing," Descartes claims, is patently absurd. We all admit that space has extension, and nothingness can have no properties. Space, therefore, must be something. Now that we have already admitted that space is something, there is nothing preventing us from admitting that space is body. So space, on Descartes' view, is not an empty vacuum, but rather it is a plenum, or something that is filled.

After taking care of the notion of space, Descartes next turns to the related notion of place. While "space" is a term that we use when referring to the size and shape of bodies, "place" is a term that we use when referring to the position of bodies. Place, Descartes tells us, refers to a body's size, shape, and position relative to other bodies. Place, therefore, is a relative property. No body is in any one absolute place or position. Rather, a body is in numerous different places corresponding to all the other bodies with which you could view it in relation. To illustrate this point, Descartes draws an analogy to a man on a ship. If the man remains at the wheel of the ship, then in one sense he remains at the same place: his position on the ship has not changed. However, since the ship itself is moving in relation to the two shores between which it is traveling, the man is changing his place in relation to these shores as well. Strictly speaking, though, we determine the place of a body by the common surface it shares with other bodies. So long as a body retains its position relative to this common surface, we do not say that it has changed its place, even if it does change its position relative to other bodies. The man on the ship, then, is not moving, strictly speaking, because he only shares a common surface with the ship, and his position with respect to the ship is not changing.

### **2.3.1. Interpretation:**

Descartes' conception of space as insensible body is counterintuitive. It is extremely tempting to believe that bodies are things and that space is not. A primary worry that might trouble someone presented with this position is the concern that as a consequence of calling space a thing, Descartes is committing himself to the view that two things can be in the same place at the same time. After all, sensible bodies seem to occupy, or be in, space. However, Descartes has a good response to this worry. To think that sensible bodies are in some vast thing called "space" is to completely

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<sup>43</sup> Ibid., p.278

misunderstand what space is. Space is the extension between sensible bodies. Sensible bodies are in space, only in the sense that a ship is in water. The ship and the water are both bodies standing in a relative position to one another. Similarly, sensible bodies and space are both bodies standing in a relative position to one another. We do not object that a ship cannot be in water on the grounds that two things would be in the same place at the same time, so we should not object in the case of space and sensible bodies either.

Though the concepts involved might be counterintuitive, the work that Descartes does in his analysis of space and place allows him to draw many important scientific conclusions. First, this analysis allows him to argue in Part III that the earth does not change its place, even while presenting a heliocentric model of planetary motion. In addition, it allows Descartes to conclude (as he does in II.20) that atoms are a logical impossibility. By "atom," Descartes means an indivisible particle of matter. The reason that atoms are impossible is that all pieces of matter, no matter how small, have to be extended. Anything extended, in turn, must be divisible. Therefore, there can be no indivisible atoms.<sup>44</sup>

The definition of space as body also affords Descartes the opportunity to deny the very anti-naturalistic Scholastic view that the earth and the heavens are composed of different sorts of matter. The Scholastics believed that earthly substances were composed of the four elements (terrestrial matter) while the heavens were made up of the perfect fifth element or celestial matter. This view obviously made a unified science very difficult, since it required that heavenly bodies have completely different properties from terrestrial bodies.

Descartes' argument against this position has two stages. First he proves that the extension of the world is indefinite. No matter where we imagine the limit of physical substance to be, he claims, we can always conceive that there is some space beyond that. Since all space is filled with physical substance, this space too must be filled with physical substance. So there is no limit to the extension of physical substance. Now that he has proved that the extension of our world is indefinite, he can prove that there is no such thing as celestial matter. Matter whose nature consists in being an extended substance already occupies all the imaginable space in the world. Therefore, there is no

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<sup>44</sup> *The Geometry of René Descartes*, translated by David Eugene Smith and Marcia L. Lantham (New York: Dover Publications, 1954, p.289

room for any other kind of substance. Mental substance and God, of course, do not take up any physical space, so there does not need to be any room left for them.

#### **2.4.1. Time:**

Given that the entire physical world is one giant plenum of physical substance on Descartes' view, how do individual bodies get individuated? The answer is through motion. Like space, motion is not separable from body. Motion, however, is not a kind of body. Rather, it is a mode, like shape. It, too, then, can be deduced from the property of extension.

Also as with space, the common conception of motion is dead wrong. The common conception of motion is of an action by which a body travels from one place to another. This definition makes it seem as if motion is something separate from body. Descartes, therefore, revises the definition of motion. Motion, he claims, is the transfer of a body from the vicinity of one group of bodies contiguous and regarded as being at rest to the vicinity of another group of bodies. This makes perfect sense if we remember Descartes' definition of place. To be in a certain place just meant sharing surface contact with other bodies. To move, is just to change your position. This definition makes it clear that motion is just a mode of body, rather than anything external to body. Rest too, then, is nothing but a mode of body.

Within the plenum, bodies are individuated through this motion. Bits of matter that move together away from one set of bodies, which are contiguous with it and considered at rest, count as one body. However, even within one body there are countless different motions taking place. To illustrate how this is possible, Descartes asks us to imagine a watch in the pocket of a man, who is himself on a ship. The wheels of the watch have one motion, the motion that individuates the watch, but they also share in the motion of the man walking aboard the ship, because they are in contact with him. Further, they also share motion with the ship, because the man is connected to the ship. Lastly, they share the motion of the earth, because the ship is in contact with the earth. The watch, the man, the ship, and the earth can be seen as comprising a single piece of matter, through their contiguity, or they can be seen as individuated bits of matter through their own individual motions.

Because space is filled, all motion must be in the form of a circle of bodies moving together. Whatever place A is going to reach when it moves, must first be vacated before A can get there. So in order for A to move, whatever is occupying that spot (say, B,) must move as well. Of course, for B to move another spot, now occupied by C, it must first be vacated, and for C to move D must vacate its spot, and so on. In other words, in order for any motion to take place several bodies must move simultaneously. In order for this simultaneous vacating not to go on ad infinitum, Descartes posits that motion takes place in a circle. Motion, then, is a continuous circuit.

From the fact that motion is a continuous circuit, Descartes concludes that there are an indefinite, or infinite, number of particles in the world. For any motion to take place, it is necessary that all imaginable particles shift their positions to some extent. There must, therefore, be an indefinite number of particles in the world. Descartes admits that this indefinite division is beyond the grasp of our finite minds, but he claims that we cannot doubt its existence.

#### **2.4.2. Interpretation:**

Descartes' account of motion is not much easier to understand than his account of space. Once again, though, going through the discussion step by step can shed some significant clarity. It is clear enough why Descartes defines motion as the transfer of body from one contiguous group of bodies to another. Since place is defined in relation to a contiguous group of bodies, a change in place should also be defined this way.

It is important to remember, though, that this definition of place was, in a way, only a convenience. Really, there is no absolute place, since a body can be defined in relation to a whole host of other bodies, not just in relation to contiguous bodies. Similarly, motion is relative, differing based on to which bodies you are comparing the body in question. A man lying at rest on the deck of a ship is moving with respect to the ever-diminishing shoreline. Yet Descartes defines place and motion, strictly speaking, only in reference to contiguous bodies—that is, bodies that share a surface with the body in question. To understand what this means, imagine a raisin bagel that is being twirled around in the air. The raisins in the bagel are in motion when viewed in relation to the surrounding air particles. However, they are not, strictly speaking, in motion on Descartes' view because their position with respect to the bready matter with which they are surrounded remains constant. This

is, admittedly, a strange way of defining motion, and it might seem rather arbitrary. Descartes', however, had a strong motivation for making this distinction, as will become clear in Part III<sup>45</sup>.

So far we have gotten through the "contiguous" part of the definition, but what about the "regarded as at rest" part? Remember that Descartes' definition of motion was as a transfer of one body from the vicinity of a group of contiguous bodies *regarded as being at rest* to the vicinity of another group of bodies. First, why "regarded"? The answer is that we only *regard* these bodies as at rest, because given Descartes' picture of motion, they cannot *really* be at rest. Since motion is defined as the transfer of position with reference to another body, when body A moves in reference to body B, body B moves just as much in reference to body A. A body cannot really move, in other words, without its contiguous body also moving. So what is the problem with saying that both A and B move? Why even add in the "regarded as at rest" if neither contiguous body can really be at rest as long as the other is moving? The problem with saying that both A and B move is that it lands Descartes in conflict with Church policy. If whenever A moves, B must move as well, then the earth must necessarily move. Certainly parts of matter with which the earth is contiguous, move with respect to the earth (e.g. the particles of the atmosphere). If these parts move with respect to the earth, then in Descartes' view the earth must move as well. Descartes' solution to this bind is to add in the "regarded as at rest." By adding this clause, Descartes is able to leave himself an escape hatch (however narrow), should the inquisition come calling.

### **2.5.1. Causes of Motion:**

There is one thing clearly missing for Descartes' account of motion up until this point, which is the concept of force. What gets all this motion going in the first place? Descartes takes the rest of Part II to answer this question. He divides the causes of motion into two categories. First, there is the primary and general cause, the cause that puts force into the system. Then, there are the particular causes that explain how, in each instance, a piece of matter obtains the motion that it obtains. The primary cause is God, while the particular causes are the laws of motion that he set up.

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<sup>45</sup> *The Geometry of René Descartes*, translated by David Eugene Smith and Marcia L. Lantham (New York: Dover Publications, 1954, p.254

The picture is supposed to look like this: God put an initial blast of motion into the world and then set up some laws to govern the patterns of motion that objects will undergo. Since God always acts in a manner that is constant and immutable, the amount of motion in the world always remains constant. In other words, Descartes manages to derive a law of conservation of motion from God's nature.

The laws that govern motion are different from all the other principles that Descartes has presented up until this point. Since they are not properties of body but, rather, laws set up by God, they cannot be deduced from the property of extension. Instead, they have to be deduced from the immutability of the workings of God. The first law of nature is that, in the absence of friction or collision, an object in motion remains in motion, and an object at rest remains at rest. The second law is that an object in motion travels a straight path, and for an object's trajectory to curve, some further force is needed to change its path. The third, and final, law is that, when two bodies collide, the weaker body gains some motion, and the stronger body loses the corresponding amount of motion (e.g. when a projectile hits a hard body it rebounds in the opposite direction, but when it hits a soft body it stops). Principles 40–53 explain the rules that govern this transfer of motion between bodies.

Descartes ends Part II with a discussion of the difference between hard and fluid bodies. The primary observable difference between hard and fluid bodies is that fluid bodies are penetrable, while hard bodies are not. In other words, fluid bodies are quick to abandon their place to other bodies, while hard bodies are not: if you press your hand on water, the water will move away and let your hand take the place where water particles once rested; if, on the other hand, you press on a piece of concrete, the concrete will not budge. Descartes' explanation for this different behavior among bodies is that fluid bodies are made up of tiny particles which are all in motion relative to one another, while hard bodies are made up of particles that are all at rest relative to one another. If a body's parts are continually moving, then another body that comes along will be able to occupy the spaces being continually vacated by the moving particles. If a body is not moving, then no spaces are being vacated, and so no other body can find its way in.

### **2.5.2. Interpretation:**

The picture of force, however contrived, seems, at least, easy enough to understand on a superficial level. However, there is a big worry that complicates the story. Descartes does not just think that God put force into the world at the very beginning and then left the laws of motion to do the rest. Rather, according to Descartes' picture, God constantly maintains the amount of motion in the world in the same way that he initially put it in. This is because, as we saw in Part I, Descartes believes that the world needs to be maintained by an act of divine creation at every moment. With this in mind, the picture suddenly looks like it could be very different. If God is constantly recreating the world, then he might simply position each part of matter in a different place each time he recreates it. The laws, then, would really just describe the patterns in which God recreates the world. The laws would not act to guide the force that God initially blasted in.

It is not clear which of these two pictures really describes the way Descartes imagined motion to work. The first view, on which God provides the force with the laws of motion doing the rest, is obviously much more appealing to a modern mind. The other picture hardly seems like science to us at all. There is no real indication of Descartes' opinion either way, however.

Moving on from the notion of force to the laws of motion themselves, presents another consideration. Though Descartes claims that the laws of motion can be derived from the immutability of God's operation, it is pretty clear that he could not have deduced these laws using just logical reasoning. That is to say, if he had just sat in an armchair in his home in Holland thinking about the immutability of God's operations, he could not possibly have arrived at the fact that these three laws govern all of motion. Instead, the discovery of these laws required much observation and experimentation, which, luckily, other scientists, particularly Galileo, had already done by this time. However, it is still remarkably ambitious of Descartes to attempt to provide proofs for all of these laws by referring only to the immutability of God. Unfortunately, none of these proofs is particularly convincing.

Given the ambitious scope of the project, it is worthwhile to go through each of these proofs and see how well they work. Descartes' proof for the law of inertia is this: God always works in the simplest and most immutable ways. In other words, God never allows anything to happen unless

there is some good reason for it. Therefore, if something is at rest, he would never make it not at rest unless there was some reason to do this (and similarly for motion). In the absence of friction or a collision, there is no reason for particles to change their state, and so they do not. The proof for rectilinear motion is much the same: Since God operates in the simplest and most immutable way possible, he would not have the direction of motion change for no reason, and to travel without change of direction is to travel in a straight line. Descartes' proof for the third law rests on the conservation of motion. Since the amount of motion cannot change, it is just transferred between bodies. Descartes is not particularly clear on why hard bodies lose this motion and soft gain it, however.

### **2.6.1. The Motion of the Heavens:**

In parts III and IV, Descartes takes the principles of physics, which he has deduced from the nature of body and the laws of motion, which he has supposedly deduced from the immutability of God, and he applies these to observable phenomena. His goal is to demonstrate the explanatory power of his principles by showing that they alone can account for all of our observations. Part III focuses on the most universal phenomena of nature, the general structure of the entire visible world.<sup>46</sup>

Chapter III reads like a checklist, with Descartes running through every astronomical observation of which he can think. In nearly every English translation of the *Principles*, most points on this checklist are omitted. However, the two most important discussions the analysis of planetary motion and the analysis of the elements of the universe are generally included.

Descartes' model of planetary motion is an odd cross between heliocentrism and a static earth theory. Descartes agrees that all of the planets, including earth, move around the sun. However, he maintains that none of the planets are really in motion. This way, Descartes gets to have it all: he can account for all the observations that seem best explained by heliocentrism, and he can also avoid the wrath of the Church. Nonetheless, Descartes is very careful to point out that his model is only a hypothesis and is not meant to necessarily reflect the way things really are.

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<sup>46</sup> *The Geometry of René Descartes*, translated by David Eugene Smith and Marcia L. Lantham (New York: Dover Publications, 1954, p.118

Descartes' cagey model rests on his odd definition of motion. Remember that a body is only in motion if it changes its position relative to the bodies with which it is in *immediate contact*. The raisins in the twirling raisin bagel are not in motion because their position relative to the bread matter does not change. The planets, on Descartes' view, are much like raisins in a raisin bagel. Only instead of bread, they are suspended in a fluid body. This fluid body is the heavens. The fluid heavens move in a vortex around the sun (a vortex is like a whirlpool, swirling around a center), carrying all the planets with them. Within the celestial goop, however, the planets retain their position. Therefore, though they travel around the sun, they remain at rest.

### **2.6.2. Interpretation:**

Only the most die-hard Descartes scholars pay much attention to his scientific explanations of heavenly phenomena, since they are all consistently off target. This explains the scarcity of English translations; there is currently only one full translation. However, Descartes' accomplishment should not be underestimated simply because he was dead wrong. It is fascinating to read through the explanations in Parts III and IV and see how each principle that he established in Parts I and II plays a role in some way.

Just to run through the more prominent examples from this section: First, why does Descartes' claim that the heavens are a fluid? This claim rests on two previous principles: the proof that space is a plenum and the proof of the nature of fluid bodies. Since there is no such thing as empty space, the plenums have to be some sort of body. In order to determine what sort of body they are, we must consider their behavior. One thing that can certainly be said about the heavens is that they are penetrable they easily yield their place to other bodies. Comets zip through them, and planets take their place in their midst, etc. Looking back to the definition of II.54, we see that this means that the heavens must be fluid, since it is fluid bodies, composed of quickly moving particles that are easily displaced by other bodies.

Next, we must ask, why does this heavenly fluid move in vortices, like a whirlpool. This claim rests on principle II.33, in which Descartes proves that all motion must be in the form of a continuous circuit. Since all of space is a plenum, in order for A to move to B's spot, B must move

to C's spot and C to D's spot and so on. As each tiny body takes the other's spot in the quickly moving heavenly fluid, a vortex, swirling around the center, is formed.

Descartes is then able to use the physics of vortices to explain certain other observable phenomena, particularly the relative motion of the planets. Those planets that are positioned toward the center of the vortex naturally move around the sun the quickest, since in a vortex the middle swirls most rapidly. Just imagine a whirlpool to understand why this is true.

### **2.7.1. Origins of the Universe:**

After posing his model of planetary motion, Descartes next moves on to attempt an account (purely theoretical, he is careful to mention) of how the observable universe came into being. Let us assume, Descartes tells us, that originally all the matter of the universe was divided (by God, of course) into particles of moderate and roughly equal size. Let us also suppose that God had already put in the fixed amount of motion, which has remained constant to this day. Finally, let us suppose that these particles moved in two motions: First, they moved individually around their own centers, thus creating the fluid heavens. Remember, a fluid is simply a body in which all the particles are quickly moving in relation to one another. Second, they moved as groups around certain centers, thereby creating vortices in the heavenly fluid.

From this motion of moderately sized particles, the entire visible universe arose. The particles congregated through their motion into three sorts of matter that still exist today and are the three elements. The first element is matter made up of particles moving so quickly that whenever this matter comes into contact with another body, it shatters into tiny component particles. The sun and the stars are composed of this element. The matter of the second element is made up of spherical particles, which are microscopic, but have a stable, fixed quantity, unlike the particles in the first element. This element forms the heavens and accounts for the nature of light. Finally, there is the third element, out of which the planets and comets are formed. The particles of this element are larger and not well-suited to motion, and so they give rise to hard bodies.

Using these three elements, together with the laws of motion and principles of physics from Part II, Descartes is able to give explanations of all observable heavenly phenomena. He tackles, among other topics, the nature of light explained as the result of particles of the second element moving

in rectilinear motion away from the center of their vortices, the spherical shape of the sun and stars similarly explained in terms of the rectilinear motion of particles away from the center of vortices, sunspots explained with reference to the motion of the highly agitated particles of the first element, solidity accounted for by the size and shape of the particles of the third element, and why the motion of the planets does not describe perfect circles because of the oddities of the continuous circuit of motion necessitated by the plenum.

### **2.7.2. Interpretation:**

Before launching into his account of the universe's origins, Descartes makes clear that he does not believe that this process of development really took place. Since God is perfect, he asserts, he would not have created the world in anything but its perfect, finished form. Why, then, does he even give this long-winded account? The answer is up for some debate.

One plausible explanation is that Descartes was being insincere in this statement. Though he claims that he believes God created the universe fully formed, it is highly likely that this is yet another instance of Descartes hedging his bets for fear of Church condemnation. The Bible tells us that God created the world fully formed, and so Descartes does not want to contradict this claim. Yet, he does want to give an account of how he thinks the universe was really formed. Making this declaration of innocence is his way of playing it safe.

However, Descartes himself was a highly religious man, and it is possible that he truly did believe in the scientific authority of the Bible. In that case, there is another explanation available for the presence of this discourse. In principle III.46 Descartes states, "For although we know for sure that they never did arise in this way, we shall be able to provide a much better explanation of their nature by this method than if we merely described them as they are now."<sup>47</sup> By accounting for how these objects might have come into being, we can get a more thorough understanding of their nature, Descartes claims here.

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<sup>47</sup> Hatfield, Gary, *Routledge Philosophy Guidebook to Descartes and the Meditations*, London: Routledge, 2002, p.118

This does not seem quite right, though. We certainly can get a much better grasp of A's nature by attempting to account for how A really might have come into being, but by merely telling a fictional story about how A could-have-but-did-not-really come into being, we do not learn anything new. All that we get out, in that case, is what we put in: the facts about A's nature that we already knew and used in order to develop a plausible fictional account of A's origin. Once we arrive at the plausible fiction, though, we do not learn anything new. We just learn that we have come up with an account that logically coheres with the facts we already knew. It is only if we then further suppose that this account might be true that we have potentially learned something new about A. using this new knowledge (however tentative) we can deduce further hypotheses about A's nature. In the absence of any level of commitment to the truth of this account, however, the account itself is a dead end.

Of course, it is possible that Descartes only intended to lead us to this dead end. There is still some use to a pure fiction, even if it does not lead us to new knowledge. In order to come up with the story at all, we need to take stock of all the facts we already know about A's nature. Coming up with the fiction, then, can be seen as a useful way to focus us on all the facts we already know about A. Perhaps Descartes' purpose is only this. It seems, though, that he has higher hopes pinned on his account of the origin of the universe. It sounds both from his statement of purpose and from the account itself that he believes that he is arriving at new knowledge concerning the nature of the universe. If this is the case, then he must certainly believe that this account is more than just a useful fiction. He must believe that it is a plausible candidate for the truth. Even more than that, given his confidence in his clear and distinct perceptions, he probably believes that it *is* the truth.

## **2.8. Terrestrial Phenomena:**

Having explained the structure of the entire visible universe<sup>48</sup>, Descartes now lets his principles of physics loose on earth. He begins with an account of how terrestrial phenomena could have come into existence. Once again, his explanation makes heavy use of the three elements of matter. The Earth, according to his picture, is divided into three regions, each with different sorts of particles,

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<sup>48</sup> Hatfield, Gary, *Routledge Philosophy Guidebook to Descartes and the Meditations*, London: Routledge, 2002, p.174

deriving from the three elements. The formation of various bodies from these particles arises from four forces: the general motion of celestial globules, gravity, light, and heat.

Descartes' discussion of gravity, or the "second force," is generally the only section translated into English from the first two thirds of Part IV. It is, without a doubt, his most interesting treatment of a terrestrial phenomenon. Descartes, a pre-Newtonian, does not think of gravity as a universal attractive force. Rather, for Descartes as for the Scholastics, gravity was literally "heaviness." The Scholastics used the Latin term "gravitas" to refer to the supposedly inherent tendency of terrestrial bodies to move downward. Descartes, of course, wants to give a completely mechanistic account of the tendency of earth's bodies to head downward.

Given that the earth moves around the sun, Descartes asks, why do earthly bodies not fly off the planet like sand flying off a spinning top? The reason is that celestial matter surrounds all terrestrial matter. Earth does not move of its own motion but is moved by the terrestrial matter in which it is embedded. Earth, therefore, behaves like a body at rest.

This surrounding celestial matter not only accounts for the fact that terrestrial bodies do not go flying off into the heavens, it also accounts for the fact that all terrestrial bodies trend downward. It is not that terrestrial bodies in themselves have any property of heaviness or some tendency toward the ground a property that Descartes would not be able to explain as the result of extension. Instead, what causes terrestrial bodies to move downward toward the center of earth is that celestial bodies, which are in motion, are constantly trying to move upward, away from the center of earth.

Since the natural motion of body is rectilinear, when a body is prevented from rectilinear motion, it is constantly trying to regain its rectilinear course and, therefore, tends away from the center of the spiral it has been temporarily forced into. Celestial particles are prevented in their rectilinear motion by encountering the earth. They are therefore, moving away from the center of the earth. In order to move upward, they must displace the particles that are in their way. They cannot displace other celestial particles because these have an equal tendency to move away from the center of the earth. They can, however, displace terrestrial particles because terrestrial particles do not have this tendency to the same extent, though they must have it to some extent since they too

need to move in rectilinear motion. The force the celestial globules exert in order to displace terrestrial particles above them is what forces all terrestrial bodies toward the center of the earth.

After explaining the force of gravity, Descartes goes on to attempt to account for every conceivable terrestrial phenomena: earthquakes, the nature of various metals and minerals, the tides, flammability and the nature of fire, the nature of glass, and magnetism.

Descartes was arguably one of the greatest minds in human history. He revolutionized philosophy and made some of the more important advances in mathematics of anyone in his century. Why, then, was his physics, to which he had devoted much time and energy, so deeply flawed? It would seem that a man of his mental stature and level of commitment to the pursuit of physical knowledge, was bound to hit on some important discoveries. It cannot simply be that he had some odd views about metaphysics. Take Johannes Kepler, as a foil. Though Kepler ascribed to some strange metaphysical principles deriving from his sun worship, he was still able to come up with three correct laws of planetary motion in the course of generating scores of bad ones. What prevented Descartes from generating some gems of truth amid all his falsities?

Though, of course, there is no way to answer this question in any definitive way, it seems highly plausible that Descartes' method itself ultimately doomed him to failure. Descartes was obsessed with the idea of clarity and certainty, probably in large part because of his disgust with the obscurity of Scholastic philosophy and science. In pursuit of utter clarity and certainty, Descartes attempted to turn natural science into a kind of mathematics, aprioristic and absolutist. In other words, he wanted science to become (1) a matter of logical reasoning rather than observation (an a priori, rather than an a posteriori exercise), and (2) a matter of incontrovertible proof, rather than likely, and perpetually revisable, conjecture. Unfortunately, science simply is not like that, as much as we might like it to be.

In his quest for a certain and absolute science, Descartes presupposed that his physics must derive from clear and distinct ideas of the mind. In science, however, we cannot always clearly perceive how hypotheses might work, or even what they really mean, until we have played around with it for a long time. Science as a project is heavily dependent on vague intuitions and brilliant guesses, which only slowly develop into clear pictures of the world. In Descartes' case, what his dependence

on clear and distinct ideas prevented him from doing, was developing a plausible dynamics of matter. His insistence that all of physics derive from the property of extension because that was the only clear and distinct idea we had of body precluded him from exploring the concepts of force or energy in any useful way. These were the problems, however, that needed useful treatment at this time. Conclusion of this chapter is not written yet.

## **2.9. Criticism on Descartes Mind-Body by Arnauld.**

Using the arguments from doubt, from clear and distinct perceptions, and from simplicity, Descartes attempts to prove in “The Meditations” that the mind (that is the soul or the “thinking thing”) is distinct and separate from the body (the extended, unthinking thing). This view is now known as Cartesian Dualism. In this essay I will outline Descartes’ main arguments, some of the criticisms of dualism, and my opinion as to which argument I perceive as the most convincing.

The first argument in Cartesian Dualism is the Argument from doubt. Descartes starts by concluding that although he can conceive the possibility that his perception of his own body could in fact be false, he cannot conceive the possibility that he is without a mind. This is because by the very act of doubting that he is a thinking thing, there must be something there in the first place to do the doubting. The next step Descartes takes is to propose that the mind and body are two separate and distinct entities, and his argument goes as follows:

I am certain that I am a thinking thing

I am not certain that I am a physical thing

Therefore, I am not a physical thing

This is paraphrased by one of Descartes critics, Antoine Arnauld- “I can doubt whether I have a body. Yet I cannot doubt that I am, or exist. Therefore I who am doubting and thinking am not a body. For, in that case in having doubts about my body I should be having doubts about myself”<sup>(49)</sup>. Arnauld then goes on to discredit this argument drawing parallels between this and the idea of a right- angled triangle. He says that a fact such as the length of the hypotenuse is equal to the sum

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<sup>49</sup> Gaukroger, Stephen, *the Blackwell Guide to Descartes’ Meditations*, Oxford: Blackwell. (Ed), 2006, p. 198

of the square of the other two sides can be doubted by someone who knows no better. This however, does not make the statement false. Descartes replies to the criticism in the Second meditations by saying that he did not mean to “exclude anything physical from my essence”<sup>50</sup>. He meant instead to use the argument of doubt to come to a conception of himself which excludes all body, not to arrive at a conclusion that was objectively the case. So in fact Descartes eventually arrived at the conclusion that he could not exclude the possibility that there is an element of materiality to the soul.

The second argument is the Argument from clear and distinct perception, and is the part of The Meditations where Descartes attempts to prove that the mind is without doubt distinct from the body. After proposing that all people are thinking things and not physical things, Descartes goes on to argue that the mind is not only separate from the body, but can also live without it. The train of thought follows that if two things can exist apart from one another, then they must be two distinct and separate things. If it is possible to imagine that these two things could exist apart, then God must be able to bring it about. So if God can bring it about that these two things do exist apart, they must therefore be distinct from each other. If this is then applied to body and mind, then it is possible that the two are distinct, as they both exhibit properties that they do not share with the other thought belongs to the self, and extension belongs to the body. If the mind is therefore distinct from the body, then it is possible to exist as a mind without the body.

The question is, just because one can clearly and distinctly perceive the mind and body as distinct, does this mean that they actually are? Take the example of a statue. It is made out of metal, but in its state as a statue the metal and the statue are perceived to be one and the same thing. However if the statue is melted down, then the metal still remains, but the statue no longer exists. This argument stemming from Arnauld (he uses the example of a right-angled triangle) is rebuffed by Descartes, saying that the triangle nor its Pythagorean property can be understood as a complete thing in the same way in which mind and body can be understood,<sup>51</sup> and that each must be a complete thing in itself to be distinct from each other. None of this however is of any consequence, if the fundamental aspect of Descartes is called into question: how can he be so sure that he will

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<sup>50</sup> Gaukroger, Stephen, *the Blackwell Guide to Descartes' Meditations*, Oxford: Blackwell. (Ed), 2006, p. 118

<sup>51</sup> Ibid., p.122

continue to exist without a body? Descartes seems to argue a very persuasive point, as long as it is argued on his terms, which is a point I will touch on later.

The third argument is the argument from simplicity, and it stems from the idea that everything extended is divisible into parts. The body is extended, and so is therefore divisible into separate parts (legs, arms, etc.). However, Descartes did not believe that the mind was divisible into parts, even though areas are labelled differently, and are associated with different cognitive processes. This is because he believed that these differently labelled parts all have the same driving force behind them. So if the mind cannot be divisible into parts, and all extended things can be divisible into parts, then the mind cannot be an extended thing. This leads to the conclusion that the mind is of a different substance from the body, and must therefore be separable and distinct.

Today we know that destroying any one part of the brain can cause a detriment in speech/ sight/ memory etc., but Descartes would quite happily agree with this, as he would say that the brain does play some part in mental activities. It is the aspect “pure thought” that Descartes believes untouchable by anything physical, as it involves no physiological events in the brain or anywhere else<sup>52</sup>. This belief forces Descartes into stating that the soul must continue to think even when the body is in a deep sleep, or during foetal development. But it has been said that if we are constantly thinking, and (if Descartes is to be believed) our own thoughts are completely transparent to us, then surely we would be aware of thinking even during sleep-

“Thus, methinks, every drowsy Nod shakes their Doctrine, who teach that the soul is always thinking. Those, at least, who do at any time sleep without dreaming, can never be convinced, that their thoughts are sometimes for hours busy without their knowing of it...”<sup>53</sup>

Descartes claims that we just forget these thoughts that we have during sleep, though this seems a little far-fetched. If we simply forget, then why do we forget so much more when we are in a state of sleep than when we are awake?

The argument of Descartes on which I would put the most weight would be the argument from simplicity. Even though new medical techniques provide more and more evidence to suggest thinking is a function carried out by the brain, Descartes argument does not seem to be affected by

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<sup>52</sup> Descartes, R., *The Philosophical Writings of Descartes*, trans. J. Cottingham, R. Stoothoff, D. Murdoch, Cambridge: Cambridge University Press. 1985, p.39

<sup>53</sup> Ibid., p. 40

this. He freely admits that some mental activities involve the brain, but it is the “pure thought” process that he believes involves no kind of measurable physiological response. So the main question asked of this argument seems to be how can we constantly be thinking even when asleep and not recall any of it (proposed by Locke)? His response to the question “why then can we have dreamless sleep?” is that we just forget what we have dreamt and does seem a quick way out, but not entirely without merit. If we can forget things that have happened in the past whilst conscious, then it is not so big a step to believe that we can forget what we have thought when asleep.

There are other problems with Descartes’ dualism in general. Coming back to the point I mentioned earlier, the Dualism argument is reasonably successful as long as they are based on Cartesian presuppositions. Nietzsche suggests that the assumption that the essence of humans as “thinking things” is based on the assumption of clear and distinct perception, which is in turn based on the assumption that the method of radical doubt is indeed valid. Steven J. Wagner, in his essay “Descartes's Arguments for Mind-Body Distinctness,” supports this point when he says;

“Descartes's procedure only makes good sense once we see it as a product  
Of his system...Too much in Descartes depends on things that are far too  
Wrong!”<sup>54</sup>

One of the main problems associated with Descartes dualism is how exactly the mind and the body interact. If they are indeed two distinct and separate entities as Descartes suggests, then how does an immaterial mind interact with a material body? At first all Descartes would respond with is that the soul is “united” with the body, and acts in the same way that gravity does (the whole force of gravity can act on any one part of the body at the same time).

Later on, in Descartes name the pineal gland as the point in the brain where the soul interacts with the body through the mind. But sadly naming the point at which this interaction takes place still did not answer his critic’s question as to how the two interact. Another problem is that the way Descartes seems to view the interaction is as a pilot steers a ship. This seems much too remote a connection to be true (when a part of the ship breaks, the pilot feels no pain, but when part of the body breaks, the person does feel pain), and Descartes questions the remoteness of this idea later on in the *Meditations*.

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<sup>54</sup> Descartes, R., *The Philosophical Writings of Descartes*, trans. J. Cottingham, R. Stoothoff, D. Murdoch, Cambridge: Cambridge University Press. 1985., p.162

By concluding that minds are independent of the body, Descartes invites another critic. P.F. Strawson asks the question of individuating minds- what is there to stop many minds inhabiting one body, either at one time or in succession.

I also believe that the time at which Descartes was writing may have had some influence on his conclusions. A time in history when the church and the new scientific approach were in conflict, Descartes conveniently manages to please both. The idea that the mind is purely immaterial and the body is purely physical gives both the church and science a credible position, the church dealing with matters of the mind, and science dealing with the corporeal body. I am by no means saying that this is what shaped Descartes Meditations, only that it may have had some small part in their conclusion.

## **Chapter 3**

### **Spinoza's Concept of Substance in his Monistic Philosophy**

#### **3.1. Introduction:**

Why there can only be one substance? What made him to think different from earlier philosophers? Why there is only one substance exists? Why his view about substance differs from Descartes view? Whole in the *Ethics*, his account of substance mostly discussed in 'part one'. Most distinctive aspect of his system is his substance monism. His understanding of substance, in many ways, is closely related to this criticism of Descartes conception. So it will be easier to understand his conception if I would first briefly draft that of Descartes. The main theme here is this, Descartes conception incorporates some guiding rationalist enthusiasms but Spinoza can be seen as implicitly saying Descartes does not carry out these rationalist motivations consistently.

#### **3.2. Descartes view of Substance:**

To start with Descartes, the leading illuminations of Descartes metaphysics are substance, attribute (principal attribute)<sup>55</sup> and mode. Depend on a conception of substance that has its roots in Aristotle, Descartes understands a substance as a thing in which other things, such as properties or qualities or states, inhere and which does not inhere in anything else. Thus Descartes offers his definition of substance to quote "Each thing is called a substance which something is in immediately as in a subject or by means of which we perceive anything that exists, that is, by means of which we perceive any property, quality or attribute of which a real idea is in us". He also says, "We call the thing which they (attributes) are in a substance". That a substance does not inhere in is not in anything else is apparent from Descartes's common claim that substances exist through themselves. Another, related dimension of Descartes conception of substance is substance's independence from anything else. To quote "By substance we can understand nothing other than a thing which exists in such a way as to depend on no other thing for its existence".<sup>56</sup>

I will focus here on the characterization of substance in terms of independence and classification

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<sup>55</sup> Rene Descartes; the philosophical writings of Descartes, translated by John Nottingham, Robert Stoothoff and Dugald Murdoch- Cambridge university press vol-I in 1984, vol-5 in 1985. P.17

<sup>56</sup> Ibid., p.22

of substance. What kinds of things can meet the requirement of independence? It slowly appears that, for Descartes, only 'God' can meet this requirement, all other things depend for their existence on God and are literally inconceivable without God.

Nonetheless, Descartes does recognize a significant sense in which finite things, such as human minds, human bodies, tables, trees, etc. are substances, for although such things do depend on God, they depend on no other created thing. Of course, a table or a tree may be caused to exist by some other finite thing (a carpenter, another tree), and thus the table or the tree may depend for its existence on something besides God. But for Descartes, this kind of dependence does not spoil the fact that finite things are substances. For while the tree may be caused to exist by another tree, Descartes regards it as conceivable that the tree exists without the other tree. Each finite substance is conceptually independent of any other finite substance. One can understand what it is for the tree to exist, Descartes would say, without presupposing the existence of any other finite thing. However, the finite substance could not, Descartes is saying, be conceived without conceiving of God who brings it into existence and, indeed, for Descartes, sustains it in existence.

By holding that finite things are substances, though they are so by meeting a different requirement from the requirement the substance 'God' meets, Descartes explicitly regards the definition of substance as not univocal. To quote "There is only one substance which can be understood to depend on no other thing whatsoever, namely God. In the case of all other substances, we perceive that they can exist only with the help of God's correspondence. Hence the term "substance" does not apply univocally, as they say in the Schools, to God and to other things; that is, there is no distinctly intelligible meaning of the term which is common to God and his creatures."

There are two fundamentally different kinds of substance for Descartes and this goes along with two fundamentally different kinds of dependence. Because there is this duality of dependent substances and an independent substance, because there is thus no single standard for being a substance, we have here a violation of naturalism, in the sense of naturalism. Descartes here treats different things as playing by different rules. For Descartes, each substance has what he calls a principal attribute, i.e. "one principal property [properties] which constitutes its nature and

essence, and to which all its other properties are referred”<sup>57</sup>.

These other features of a substance that are explained by its essence Descartes often calls “modes” of the substance. Thus each substance has a fundamental feature fundamental in the sense that it is that feature which explains or enables us to understand all the other features of the substance and is, for this reason, the essence of the substance.

There are only two attributes that can play this fundamental explanatory role for Descartes: thought and extension. Thought constitutes the essence of minds in the sense that for Descartes all the particular properties of minds presuppose thought or must be understood through thought. Thus, my feeling pain and my having the thought that today is Thursday are particular properties of a substance, and to say that the substance has these properties is to presuppose that it is thinking. All other properties of the substance also presuppose thought. In precisely the same way, extension is a principal attribute because any substance that has this property is such that all of its other properties presuppose extension. Extension is literally the property of having extent, existing spatially. It is one of the most notable features of Descartes account of the physical world that there is no more to being physical than taking up space. Thus, for Descartes, extension is the principal attribute of an extended substance such as the table. The table is five feet long, weighs 50 lbs., and has a certain shape. All these properties presuppose, for Descartes, that the table is extended. He says “Everything else which can be attributed to body presupposes, extension and is merely a mode of an extended thing.”<sup>58</sup>

Because the principal attribute supports us to understand all the properties of a substance, it tells us what kind of thing the substance is, what its essence is. And, for this reason, purely formal features of a substance do not count as attributes in this sense, each substance has the features. Let us say, of existence and of being powerful to some degree. But existence and power are not principal attributes for Descartes. This is because these features do not tell us what kind of thing a substance is and do not tell us what kinds of more particular properties it has. In this way, I can understand that on Descartes ontology of substance and attribute, substances are explanatory

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<sup>57</sup> A companion to Descartes, edited by Janet Broughton, John Carrier, Wiley-Blackwell Publishers, UK, 2011, page no-274

<sup>58</sup> Ibid., p.467

devices. Each substance has a nature that can be articulated or explained in terms of its principal attribute, and this principal attribute in turn articulates or explains all the particular properties of the substance. Thus, for Descartes, each substance is fully conceivable. Everything about a substance must be capable of being understood and what it is understood in terms of its principal attribute.

This is, of course, a rationalist dimension in Descartes ontology, and we can appreciate this dimension by contrasting Descartes's view with a broadly Aristotelian account of substance. On the Aristotelian account, a corporeal substance consists of prime matter and a substantial form. The substantial form is, in some ways, like a Cartesian principal attribute, it articulates us the nature of a substance and the kind of properties it can have. But the form is not the only constituent of a substance, the substantial form must somehow inhere in a subject and this subject is prime matter, a featureless, bare subject for a substantial form. The prime matter is a thing in some sense, but, precisely because it is featureless, it cannot be articulated or explained.<sup>59</sup> Literally, prime matter is no kind of thing, and precisely for this reason Descartes rejects this notion as unintelligible.

Marleen Rozemond sums up the view here, when he says to quote "Since Descartes eliminates prime matter from the hylomorphic conception of corporeal substance, the result in Aristotelian terms is that a substance just consists in a substantial form. In Descartes' own terms, the result is that the substance just consists in a principal attribute."<sup>60</sup>

But a problem immediately arises, if the substance just is its principal attribute, then how can there be more than one substance that has the same attribute? Let's say that substance 'A' has the attribute of thought and substance 'B' (distinct from A) also has the attribute of thought. Substance 'A' might be my mind and substance 'B' your mind. If each substance just is its principal attribute, then 'A' is identical to the attribute of thought and 'B' also is identical to the attribute of thought. Given the transitivity of identity, it would follow that, contrary to our supposition, 'A' and 'B' are identical or my mind and your mind are identical. This is a major problem, and to avoid it Descartes would have to say that there is something more to a particular substance than its attribute. This

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<sup>59</sup> Spinoza; Michael Della Rocca, Routledge, London and new York, 2008 p.38

<sup>60</sup> Descartes' dualism by Marleen Rozemond, President and Fellows of Harvard college, USA, 1998, p.126

something more would then help individuate or distinguish one substance from another.

For Descartes, principal attributes are basic features in terms of which other features are conceived, then principal attributes must be conceptually independent of one another. Thus, for Descartes, to understand a thing as thinking does not require us to think of it as also extended, and similarly conceiving of a thing as extended does not require conceiving of it as thinking. By contrast, as we saw, conceiving of a thing as five feet long does require conceiving of it as extended. In this way, being five feet long is a mode of being extended. If thought itself were conceived through extension, then thought would be a mode of extension and thus thought would not be an attribute after all. For this reason, given that thought and extension are each principal attributes, they must be conceptually independent of one another. Further, thinking features in general are conceptually independent of extended features. We can think of something as having a particular thinking feature without thereby thinking of it as having extension or any particular extended feature. Thus my mind's having the property of thinking about a table does not presuppose that my mind has any extended feature, nor in fact does it presuppose that anything else is extended. Certainly this thought is about something extended namely the table but it does not presuppose that anything actually exists that is extended. The mere fact that I have the thought of a table is compatible with there being no tables or, indeed, no extended objects. That is, one can, it seems, conceive that I have the thought of a table without presupposing that there are tables or extended objects generally. Thoughts of extension are, for Descartes, conceptually independent of extension, or, as Descartes puts it, "the concept of the one is not contained in the concept of the other".<sup>61</sup> This is one of Descartes's points in his famous skeptical arguments in the *Meditations*.

Despite insisting that attributes be conceptually independent, Descartes allows for causal interactions that cross the boundary between two attributes. Thus Descartes holds that certain mental changes, changes in thought, can cause certain changes in the extended world. And certain extended changes can cause changes in thought. Thus consider my mind which, for Descartes, is a substance separate from my body. My mind can cause changes in my body, and certain changes

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<sup>61</sup> Rene Descartes; the philosophical writings of Descartes, translated by John Cottingham, Robert Stoothoff and Dugald Murdoch- Cambridge university press vol-I in 1984, vol-5 in 1985. P.52

in my body can cause changes in my mind.<sup>62</sup>

Thus, for Descartes, despite there being no conceptual connections between mental things and physical things, there can be causal connections between them. There is a final aspect of Descartes ontology of substance that I want to emphasize, and this is his claim that each substance has only one principal attribute. For Descartes, there is only one fundamental feature in terms of which all the properties of a substance can be explained. Speaking of principal attributes, Descartes says: It cannot be said that those which are different, and such that the concept of the one is not contained in the concept of the other, are present together in one and the same subject; for that would be equivalent to saying that one and the same subject has two different natures.<sup>63</sup>

In the same way, I believe, for Descartes, if a substance has two attributes, then, given their conceptual independence, there would be no explanation of the fact that they belong to the same substance. So, for Descartes, given the conceptual independence between the attributes and given his demand which can be seen as a rationalist demand that there be an explanation of why a substance has the features that it does have, I can see why he insists that a substance can have only one attribute. As I will perceive, Spinoza denies the Cartesian view that a substance can have only one attribute and, attractively, he will do this by strengthening not only the rationalist demand, but also the conceptual separation between the attributes.

### **3.3. Spinoza's Critique on Descartes' Substance:**

In aspect of its rationalist character, one would expect Spinoza to be quite sympathetic to Descartes ontology of substance and attribute, and indeed he is. He follows Descartes in developing an account of substance according to, which it is independent of other things and an account of attribute according to which it is somehow a fundamental feature of the substance that all of its particular properties assume. Further, for Spinoza as for Descartes, one attribute is conceptually independent of another.

The concluding two theses (at least) are, as I explained, rationalist hypotheses in Descartes, and so Spinoza accepts them. However, he differs significantly from Descartes in this area, and he does

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<sup>62</sup> Spinoza; Michael Della Rocca, Routledge, London and new York, 2008 p.42

<sup>63</sup> Rene Descartes; the philosophical writings of Descartes, translated by John Cottingham, Robert Stoothoff and Dugald Murdoch- Cambridge university press vol-I in 1984, vol-5 in 1985. P.119

so precisely because of his more thoroughgoing commitment to the PSR.<sup>64</sup> Spinoza, like Descartes, understands a substance as something that has properties but that it is not a property of anything else. This is why, I believe, part of his definition (1def3) of substance is as that which is in itself. For him, as for Descartes, things inhere in substance and it, in turn, inheres in nothing else. He also defines substance in terms of independence. The kind of independence him, like Descartes, has in mind is conceptual independence, and thus the other part of his definition of substance is that substance is conceived through itself.

Therefore the account is a lot like Descartes, but the first withdrawal is, Spinoza does not countenance the kind of escape clause that allows finite substances into Descartes's scheme. He would agree with Descartes that only God meets the requirements for being a substance, but, unlike Descartes, he does not look for a way to have finite things count as substances as well. Any such exception would be too heavy, for him, or, more specifically it would be a violation of his naturalism and of his PSR. The second main departure from Descartes concerns his notion of attribute. He defines attribute much as Descartes does. To quote "By attribute I understand what the intellect perceives of a substance, as constituting its essence."<sup>65</sup>

One apparent difference though its significance is not immediately apparent is that Spinoza qualifies his definition in terms of that which the intellect perceives as constituting the essence of substance, like Descartes, Spinoza regards thought and extension as attributes. Unlike Descartes, he holds that there is an "infinity of attributes" including thought and extension. For him, the other attributes are unknown to human beings (Letter 64). I will not focus on this difference between Descartes and Spinoza in what follows. The difference I want to focus on instead emerges from some of the ways he applies the definition of attribute. Just as Descartes does, he rules out any kind of conceptual connection between attributes. He makes this claim most prominently in 1p10: "Each attribute of a substance must be conceived through itself." By this claim, he means, just as Descartes does, that nothing extended is conceptually connected to anything thinking. However, unlike Descartes, he also does not allow any causal relations between thought and extension. For him, it is precisely because thought and extension are conceptually separate that thought and

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<sup>64</sup> Spinoza; Michael Della Rocca, Routledge, London and New York, 2008 p.48

<sup>65</sup> Benedict De Spinoza; Ethics, edited and translated by Edwin Curley with an introduction by Stuart Hampshire, Princeton University Press 1994, reprint by Penguin Books 1996, p.1

extension cannot causally interact. For him, in other words, causal dependence amounts to conceptual dependence.

I can understand that Spinoza accepts that causation is just conceptual connection by turning to his claim that a substance cannot be caused by another thing. His reason is that in such a case the substance would be conceived through that other thing.<sup>66</sup> Thus, for him, there must be some conceptual connection between two things in order for them to be causally related. Indeed, it is clear from this passage, together with the way he uses causation is coextensive with conceptual connection. But his point here is more than a claim of mere co-extensiveness. For him, causal connections are grounded in and stem from conceptual connections. Consider the fact that Spinoza defines substance and mode in terms of conceptual connections and on this basis goes on to conclude<sup>67</sup>.

That there cannot be causal connections between substances or between modes of different attributes. Conceptual connections are clearly, for him, more fundamental than causal connections, and the latter can be derived completely from the former. And thus, for Spinoza, causation is nothing more than the relation whereby one thing explains another or makes it intelligible. Why does Spinoza integrate causal and conceptual dependency in this way? One can see him as guided by the drive for unification demanded by his rationalism and naturalism.

It's as if Spinoza is saying to Descartes to quote "you have no good reason to separate these kinds of dependence, and if you do separate them, you are making causal relations unintelligible." Here's one way to grasp this point as developing. Let's say that 'a' is the total cause of 'b'. I want to claim on Spinoza's behalf that in such a case the claim "if 'a' occurs then 'b' occurs" must be conceptually true. By contrast, on the Cartesian view which allows for causal relations in spite of a conceptual gap between the mental and the physical, these causal relations are, at bottom, unintelligible. Given the cause, there is no way to understand the effect coming. But on his view, according to which causes are conceptually connected to their effects, by understanding the concept of the cause, we can just realize that the effect has to occur. There is no secret about the causal relation, for him. His adaptation of causal and conceptual connections is thus an expression

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<sup>66</sup> Benedict De Spinoza; *Ethics*, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.3

<sup>67</sup> *Ibid.*, p.4

of his rationalism, and Descartes acceptance of unintelligible mind–body causal relations is a sign of Descartes’s miscarriage to be truly a rationalist.

I think that one who appreciates the fact that, if there are to be genuine causal connections, they must amount to conceptual connections, is Hume. Hume, of course, denies that there are conceptual connections among distinct things and so he is unable to come up with genuine cases of causation. But, in a way, Hume does accept the rationalist demand that, if there is to be genuine causation, it must amount to conceptual connection. Spinoza accepts this rationalist demand too. But, unlike Hume, he perceives there as being genuine conceptual connections, i.e. causal connections, in the world.<sup>68</sup> Here is the Spinoza’s twofold use of the PSR. In the first use, he asks what causation is. It cannot be an instinctive fact, there is a need an explanation or account of causation itself. In the second use, he accounts for causation by appealing to conceivability or explicability itself.

The final major difference between Spinoza’s ontology and Descartes ontology that I need to focus on is his denial of Descartes’s view that a substance can have only one attribute. For him, a substance can have more than one attribute; indeed, for him, the one substance, God, has infinitely many different attributes. How can this be so in the aspect of the Cartesian reasons for limiting each substance to one attribute?

I need to explore the roots of Spinoza’s claim that only one substance with infinitely many attributes exists. His argument for this claim for his monism is one of his most elegant and also intriguing and puzzling arguments. The argument does presuppose that a substance can have more than one attribute, but by seeing the ways in which the PSR undergirds this argument, I will be in a situation to grow how Spinoza would justify the view that a single substance can have more than one attribute. Descartes regarded mathematical reasoning as the paradigm for progress in human knowledge, but Baruch Spinoza took this rationalistic appreciation even further, developing and expressing his mature philosophical views “in the geometrical manner.” Thus, in the posthumously-published ‘Ethics’ (1677), Spinoza claimed to deduce the entire system of thought from a restricted set of definitions and self-evident axioms.

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<sup>68</sup> Spinoza; Michael Della Rocca, Routledge, London and new York, 2008 p.52

Drawing specific doctrines from Cartesian thought, medieval scholasticism, and the Jewish tradition, Spinoza blended everything together into a comprehensive vision of the universe as a coherent whole governed solely by the immutable laws of logical necessity. Rigorous thought reveals that there can be only a single substance, of which we (and everything else) are merely insignificant parts. Although we may find it difficult to take any comfort in Spinoza's account of our place in the world, we are bound to admire the logical consistency with which he works out all the details.

### **3.4. The Unity of Substance**

The definitions and axioms with which Book I of the *Ethics* begins are critical to Spinoza's enterprise, since they are intended to carry his central doctrines as deductive consequences. Although they generally follow the usages of the scholastic tradition, many of them also include special features of great significance to the thought of Spinoza.

Substance, for example, he defined not only as existing in itself but also as "conceived through itself." (I Def. iii)<sup>69</sup> This places a severe limit on the possibility of interaction between things, since Spinoza declared that causation is a relation of logical necessity, such that knowledge of the effect requires knowledge of its cause. (I Ax. iii-iv)<sup>70</sup> Few will disagree that god is a substance with infinite attributes, but this definition carries some surprising implications in Spinoza's view of the world; notice also that freedom, according to Spinoza, just means that a thing exists and acts by its own nature rather than by external compulsion. (I Def. vi-vii)<sup>71</sup>.

The numbered propositions that follow make it clear what Spinoza is getting at. Since causal interaction is impossible between two substances that differ essentially, and no two substances can share a common attribute or essence, it follows that no substance can produce genuine change in any another substance. Each must be the cause of its own existence and, since it cannot be subject

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<sup>69</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985. P. 3

<sup>70</sup> Ibid., P.4

<sup>71</sup> Ibid., p.5

to limitations imposed from outside itself, must also be absolutely infinite. Things that appear to be finite individuals interacting with each other, then, cannot themselves be substances; in reality, they can be nothing more than the modifications of a self-caused, infinite substance. (I Prop. v-viii) And that, of course, is god.

### 3.5. **“Deus sive Natura”**

Spinoza supposed it easy to demonstrate that such a being does really exist. As the ontological argument makes clear, god’s very essence includes existence. Moreover, nothing else could possibly prevent the existence of that substance which has infinite attributes in itself. Finally, although it depends on a posteriori grounds to which Spinoza would rather not appeal, the cosmological argument helps us to understand that since we ourselves exist, so must an infinite cause of the universe. Thus, god exists. (I Prop. xi)<sup>72</sup>

What is more, god is a being with infinitely many attributes, each of which is itself infinite, upon which no limits of any kind can be imposed. So Spinoza argued that infinite substance must be indivisible, eternal, and unitary. There can be only one such substance, “god or nature,” in which everything else is wholly contained. Thus, Spinoza is an extreme monist, for whom “Whatever is, is in god.” Every mind and every body, every thought and every movement, all are nothing more than aspects of the one true being. Thus, god is an extended as well as a thinking substance.

Finally, god is perfectly free on Spinoza’s definition. Of course it would be incorrect to suppose that god has any choices about what to do. Everything that happens is not only causally determined but actually flows by logical necessity from immutable laws. But since everything is merely a part of god, those laws themselves, and cause and effect alike, are simply aspects of the divine essence, which is wholly self-contained and therefore free. (I Prop. xvii) Because there is no other substance, god’s actions can never be influenced by anything else.

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<sup>72</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985, p.11

### **3.6. The Natural Order**

God is the only genuine cause. From the essence of god, Spinoza held, infinitely many things flow in infinitely many different ways. The entire universe emanates inexorably from the immutable core of infinite substance. Though we often find it natural to think of the world from the outside looking in, as *natura naturata* (nature natured), its internal structure can be more accurately conceived from the inside looking out, as *natura naturans* (nature naturing). (I Prop. xxix) Since all that happens radiates from the common core, everything hangs together as part of the coherent whole which just is god or nature in itself.

The infinite substance and each of its infinitely many distinct attributes (among which only thought and extension are familiar to us) are eternal expressions of the immutable essence of god. From each attribute flow the infinite immediate modes (infinite intellect and motion or rest), and out of these in turn come the infinite mediate modes (truth and the face of the universe). Thus, every mode of substance (each individual mind or body) is determined to be as it is because of the divine essence. Even the finite modes (particular thoughts and actions) are inevitably and wholly determined by the nature of god. Hence, everything in the world is as it must be; nothing could be other than it is. (I Prop. xxxiii)<sup>73</sup>

### **3.7. Thought and Extension**

In the same deductive geometrical form, Book II of the *Ethics* offers an extensive account of human beings: our existence, our nature, and our activities. Remember that we are aware of only two of the infinitely many attributes of god, extension and thought, and that each of them independently expresses the entire essence of the one infinite substance.

That is, in the natural world (god's body), the attribute of extension, modified by varying degrees of motion and rest, produces the face of the universe, which includes all of the particular physical events which are the modes of extension. (This is almost exactly like Descartes's account of the material world.) Similarly, in the mental realm (god's idea), the attribute of thought modified by infinite intellect produces the truth, which includes all of the particular mental events which are

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<sup>73</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985.p. 25

the modes of thought. Since they arise from distinct attributes, each of these realms is causally independent of the other and wholly self-contained: the natural world and the mental realm are separate closed systems.

Despite the impossibility of any causal interaction between the two, Spinoza supposed that the inevitable unfolding of each these two independent attributes must proceed in perfect parallel with that of the other. “The order and connection of ideas is the same as the order and connection of things.” (II Prop. vii)<sup>74</sup>

And so, of course, must be the order and connection of each of the infinitely many other attributes of god. Since the development of each aspect of the divine nature follows with logical necessity from its own fundamental attribute, and since all of the attributes, in turn, derive from the central essential being of one and the same infinite substance, each exhibits the same characteristic pattern of organization even though they have no influence on each other.

Thus, for every object of the natural world that exists as a mode of the attribute of extension, there is a corresponding idea in the mind of god that exists as a mode of the attribute of thought. For every physical event that takes place in the material realm as the result of exclusively physical causes, a corresponding mental event must occur in the infinite intellect as a result of purely mental causes. Since everything flows from the same infinite being, we may suppose that the structure of thought in infinite intellect comprises an accurate representation of the structure of every other attribute.

### **3.8. Mind and Body**

Consider what all of this implies for each of us as a living human being. We are not substances, according to Spinoza, for only god or Nature is truly substantial; we can exist only as modes, depending for our existence upon the reality of the one real being. Since the one infinite substance is the cause of everything, each of us can only be regarded as a tiny cross-section of the whole.

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<sup>74</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985. P.20

Of course, that cross-section does include elements from each of the infinitely many attributes of that substance. In particular, we know that in each case it involves both a human body, the movements of whose organic parts are all physical events that flow from god via the attribute of extension, and a human mind, the formation of whose ideas are all mental events that flow from god via the attribute of thought. Although there can be no causal interaction between the mind and the body, the order and connection of their internal elements are perfectly correlated.

Thus, in principle, the human mind contains ideas that perfectly represent the parts of the human body. But since many of these ideas are inadequate in the sense that they do not carry with them internal signs of their accuracy, we do not necessarily know our own bodies. (II Prop. xxviii) If, for example, there must be in my mind an idea that corresponds to each particular organic state of my spleen; but since I am unaware of its bodily correlate, it provides me with no clear awareness of that representational object.

### **3.9. Spinoza Monistic Substance:**

In addition to the definitions of substance and attribute, there is one further crucial definition at work in his argument, and that is his definition of mode as “that which is in another through which it is also conceived”.<sup>75</sup> A mode is thus conceptually dependent on something other than the mode itself, and this is why a mode is a mode and not a substance.

Expanding these definitions and other claims, the argument runs through four key steps. It is, in outline, rather simple, Spinoza argues first that no two substances can share an attribute.<sup>76</sup> Second he argues that “it pertains to the nature of a substance to exist” (1p7).<sup>77</sup> On the origin of 1p7, he argues that God defined as the substance with all the attributes exists. Finally, since God exists and has all the attributes and since there can, by 1p5, be no sharing of attributes, no other substance besides God can exist. Any such substance would have to share attributes with God and such sharing is ruled out.

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<sup>75</sup> Benedict De Spinoza; *Ethics*, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.3

<sup>76</sup> *Ibid.*, p.3

<sup>77</sup> *Ibid.*, p.4

I want to explain each step briefly and, in some cases, raise potential objections, objections to which Spinoza has, I believe, worthy answers. Thus let's take 1p5 first where he says to quote: "In Nature there cannot be two or more substances of the same nature or attribute." To prove this proposition, he considers what is required in order to individuate two substances, i.e. what is required in order to explain their non-identity. For him, the distinctness between two distinct things must be explained by some difference between them, some difference in their properties. In the case of the individuation of substances, this amounts to the claim that they must be individuated via a difference either in their attributes or in their modes. Thus he says<sup>78</sup>, "Two or more distinct things are distinguished from one another, either by a difference in the attributes of the substances or by a difference in their affections." In part one of ethics, Spinoza makes clear that such a difference in properties is needed for two things to be "conceived to be" i.e. explained to be "distinguished from one another." In maintaining on some difference in properties between two things, he endorses the 'Principle of the Identity of Indiscernible.' This is the principle more often related with Leibniz than with Spinoza that if 'a' and 'b' are indiscernible, i.e. if 'a' and 'b' have all the same properties, then 'a' is identical to 'b'. One can comprehend that this principle turns on the notion of explaining non-identity and, as such, one can get its roots in the PSR. Non-identities, by the PSR, require explanation, and the way to explain non-identity is to appeal to some difference in properties.

Hence two substances could be individuated either by a difference in their attributes or in their modes. Spinoza dismisses right away any differentiation of substances in terms of their attributes because he says we are considering whether two substances can share an attribute. Thus a case in which substances might have different attributes might seem to be irrelevant to the case at hand. However, as we will see in a moment, this dismissal might be too quick. He then considers whether they can be distinguished by their modes. He eliminates this possibility as well, offering the following argument.

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<sup>78</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985.p.3

Since a substance is prior to its modes<sup>79</sup>, we are entitled, and indeed obligated, to put the modes aside, when we take up the matter of individuating substances. Thus, with the modes to aside and with the attributes already eliminated as individuates, it turns out that there are no legitimate grounds for individuating substances with the same attribute, for explaining why they are distinct. Hence, since substances with the same attribute cannot legitimately be individuated, there cannot be any sharing of attributes. Obviously this argument turns significantly on the claim that we should put the modes to one side. But what justifies this claim? Spinoza appeals here to the notion of priority presented in 1p1. What exactly what does this priority amount to? For him, as well as Descartes, it is conceptual priority. One can have the idea of a substance without having ideas of its modes.<sup>80</sup> Thus, I can notice why Descartes would have a problem of individuating, say, two extended substances. All that he could appeal to in order to individuate the substances is the modes, but given his own explanatory notion of substance, according to which all of a substance's modes are explained through its attributes, such a request is illegitimate. Of course, he might at this point simply give up the claim that the non-identity of substances is understandable, impartial enough. After all, he does not explicitly assert 'The Principle of the Identity of Indiscernible'. But his rejection of prime matter is in the spirit of such a principle. For him, there is no way to articulate what prime matter is precisely because it has no qualities. In the same way, there is no way to articulate what the non-identity of 'a' and 'b' consists in because no qualities are available to do the job of individuation. Thus, even on his own terms, Descartes should feel the force of this Spinozistic argument that rules out a multiplicity of substances sharing the same attribute. But even if substances that share an attribute are not individuated by their modes, possibly such substances are individuated by attributes that they do not share. Spinoza does agree, after all, that a substance can have more than one attribute.

Subsequently why can't we have the following scenario: substance 1 has attributes X and Y and substance 2 has attributes Y and Z.? On this scenario, while the two substances share an attribute (i.e. Y) they differ with regard to other attributes and can thus be individuated after all. So perhaps then, contrary to 1p5, there can be some sharing of attributes by different substances. This

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<sup>79</sup> Benedict De Spinoza; *Ethics*, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.10

<sup>80</sup> Rene Descartes; the philosophical writings of Descartes, translated by john cottingham, Robert stoothoff and Dugald Murdoch- Cambridge university press vol-I in 1984, vol-5 in 1985, p.29

objection was first raised by Leibniz, one of the most acute readers of Spinoza.

This objection is harder to answer than the charge that substances that share an attribute can be individuated by their modes, but Spinoza clearly has the resources to handle this objection too. To appreciate why, let's assume that Leibniz's scenario is possible. If so, then attribute Y would not enable us to pick out or conceive of one substance in particular. The thought "the substance with attribute Y" would not be a thought of one substance in particular, and thus attribute Y would not by itself enable us to conceive of any particular substance. For Spinoza, such a result would contradict the clause in the definition of attribute according to which each attribute constitutes the essence of substance. Such as Spinoza says in 1p10<sup>81</sup>, a claim that he clearly perceives as following from the definition of attribute, "each attribute of a substance expresses the reality or being of substance."<sup>8</sup> Therefore for him, if a substance has more than one attribute, each attribute by itself must enable us to conceive of the substance, and this can be the case only if each attribute that a substance has is unique to that substance. Thus Leibniz's scenario is ruled out. But this respectable outcome only raises again the question of whether a substance can have more than one attribute. Before I can answer this question, we must investigate further into Spinoza's argument for substance monism. The subsequent central stage is where he quotes: "It pertains to the nature of a substance to exist." he means by this claim that each substance is such that its existence somehow follows from its very concept or nature. Other things i.e. limited things or modes are not such that their existence follows from their very nature.

For such things, their existence is at the kindness of other things, the things that limit them. But a substance is distinct its existence is obliged only to its own nature. And so the only way that the existence of a substance could be prevented would be if its essence or nature were somehow internally incoherent. Otherwise, if the nature of a substance is coherent, then that's what it is for the substance to exist. In this way, I can realize that, for him, the existence of a substance is just the fact that it is coherent or, as I will say, conceivable. This reduction of existence to conceivability holds generally for Spinoza and this fact will play a crucial role in helping us to understand his account of the eternity of the human mind.

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<sup>81</sup> Benedict De Spinoza; *Ethics*, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.6

How does Spinoza entitle for 1p7? He first quotes 1p6c,<sup>82</sup> the entitlement that no substance can be caused by anything else. For him, as I have understood, if a substance were caused by something else, it would have to be conceived through that something else. But this would conflict with the self-conceived nature of substance. Since substance cannot be produced by anything else, he concludes that substance is produced by itself. Since substance is not produced by anything else, and, by the PSR, it must be produced by something, it follows that substance is self-caused. Given his equation of causation and conceivability, it follows that a substance's existence is basically a function of its concept or definition. Spinoza says, "It pertains to the nature of a substance to exist." One might, nevertheless, object to the notion of self-causation in the following way, causes must exist before their effects, so for a thing to cause itself it must exist prior to itself, which is illogical. He, however, simply rejects this restrictive notion of causation, and his integration of causation to explanation helps us to understand how he can do this. To say that a thing is self-caused is nothing more than saying that it is self-explanatory, and this is indeed how he views a substance. In 1p11<sup>83</sup>, where he relates 1p7 to the case of God, to understand how he does this, I should have before us his definition of God:

*"By God I understand a being absolutely infinite, that is, a substance consisting of an infinity of attributes, of which each one expresses an eternal and infinite essence."*

By "an infinity of attributes" Spinoza means all attributes, as is clear from his explanation of this definition: "I say absolutely infinite, not infinite in its own kind, for if something is only infinite in its own kind, we can deny infinite attributes of it; but if something is absolutely infinite, whatever expresses essence and involves no negation pertains to its essence."

Spinoza thinks that God must be understood in terms of contently, explanatorily basic features. This is in keeping with his rationalist commitment to the intelligibility of all things, including God. Implicit that God is by definition a substance and assumed that, as 1p7 states, existence follows from the nature of a substance, he concludes that God exists. Indeed, Spinoza states here that God

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<sup>82</sup> Benedict De Spinoza; Ethics, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.13

<sup>83</sup> Ibid., p.7

exists necessarily, and it's easy to perceive why. Definitional or conceptual truths are necessary truths for example, "squares have four equal sides" is a definitional truth and as such it is necessary. Because existence is a part of the concept of God, I can almost say that the statement that God exists is a necessary truth.

Spinoza offers a version of what is known as the ontological argument for the existence of God. Such arguments, in one way or another, proceed from the claim that existence is part of the concept of God to the conclusion that God exists. Such arguments had already in his days a long history dating back at least to Anselm (1033–1109) and had recently been employed by Descartes in his Fifth Meditation. His version is, perhaps, unique in the way in which it relies heavily on the PSR. Where he, in consequence, says in 1p11 that God must exist by his very nature for if he did not then there would be no explanation for his non-existence. But, this would be insupportable since, by the PSR, each fact must have an explanation. The PSR thus helps me to understand that God must have a definition or nature that is so rich as to produce God's very existence.

### **3.10. Proofs for Existence of God:**

Spinoza builds his instance for substance monism in a tightly reasoned argument that culminates in IP14. This in three parts, first, we scrutinize four definitions that play a crucial role in the argument. Second, I'm going to look at two propositions to which the demonstration of IP14<sup>84</sup> demands. And third, we turn to the demonstration of IP14 itself.

#### **Definitions:**

Among the eight definitions that open Book One of the Ethics, the following four are most important to the argument for substance monism:

ID3: *"By substance I understand what is in itself and is conceived through itself, that is, that whose concept does not require the concept of another thing, from which it must be formed."*<sup>85</sup>

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<sup>84</sup> Benedict De Spinoza; Ethics, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.9

<sup>85</sup> Benedict De Spinoza; Ethics, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.1

This definition has two components. First, a substance is what exists in itself. This is to say that it is an ultimate metaphysical subject. While other things may exist as features of a substance, substance does not exist as a feature of anything else. Second, a substance is what is conceived through itself. This is to say that the idea of a substance does not involve the idea of any other thing. Substances are both ontologically and conceptually independent.

ID4: “By attribute I understand what the intellect perceives of a substance, as constituting its essence.”<sup>86</sup>

An attribute is not just any property of a substance, its very essence. Consequently close is the connotation of an attribute and the substance of which it is an attribute that Spinoza denies that there is a real distinction between them.

ID5: “By mode I understand the affections of a substance, or that which is in another through which it is also conceived.”<sup>87</sup>

A mode is what exists in another and is conceived through another. Specifically, it exists as a modification or an affection of a substance and cannot be conceived apart from it. In contrast to substances, modes are ontologically and conceptually dependent.

ID6: “By God I understand a being absolutely infinite, that is, a substance consisting of an infinity of attributes, of which each one expresses an eternal and infinite essence.”<sup>88</sup>

God is an infinite substance, by this Spinoza means both that the number of God’s attributes is unlimited and that there is no attribute that God does not own. As I make our way through the *Ethics*, we learn that only two of these attributes can be known by the human mind, these are thought and extension.

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<sup>86</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985. p-15

<sup>87</sup> Ibid p.16

<sup>88</sup> Ibid p.17

### **3.11. Preliminary Propositions:**

Spinoza changes from these definitions to demonstrate a series of propositions concerning substance in general and God in particular on the basis of which he will demonstrate that God is the one and only substance. The following two propositions are developments in the overall argument and are explicitly summoned in the demonstration of IP14:

IP5: *“In Nature there cannot be two or more substances of the same nature or attribute”*.

In support of this proposition, Spinoza argues that if two or more substances were to exist they would be differentiated either by a difference in modes or by a difference in attributes. However, they could not be differentiated by a difference in modes, for substances are prior in nature to their modes. Thus, they would have to be differentiated by a difference in attributes. Controversially, he takes this to entail that no two substances can have exactly the same set of attributes, nor can they have a common attribute. Substances must be entirely unlike to one another.

IP11: *“God, or a substance consisting of infinite attributes, each of which expresses eternal and infinite essence, necessarily exists.”*<sup>89</sup>

In support of this proposition, Spinoza offers a variant of the so called Ontological Argument. The basic consideration upon which this variant rests is that it pertains to the nature of substance to exist. He establishes this previous, in IP7, by appealing to the fact that substances, being entirely different to one another, cannot produce one another. Since nothing else can produce a substance, substances must be self-caused, which is to say that it pertains to the nature of substance to exist. To conceive that God does not exist is thus irrational. As a substance consisting of infinite attributes, it pertains to the divine nature to exist. All these above proofs are extremely explainable and gives clarity to the Spinoza’s proof for God’s existence. With the help of those propositions, one can easily understands the whole picture of his concept of God and ontological argument.

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<sup>89</sup> Benedict De Spinoza; Ethics, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.17

### **3.12. Substance Monism Demonstration:**

With these propositions in dwelling, Spinoza has everything he needs to demonstrate that there is one and only one substance and that this substance is God:

IP14: “*Except God, no substance can be or be conceived.*”<sup>90</sup>

The demonstration of this proposition is exceedingly simple, God exists. Since God possesses every attribute (by ID6), if any substance other than God were to exist, it would possess an attribute in common with God. But, since there cannot be two or more substances with a common attribute (by IP5), there can be no substance other than God, God is the one and only substance. The implications of this proposition are surprising, and he can be appreciated to be working them out through the remainder of the *Ethics*. Most evidently, this proposition marks a break with the substance pluralism supported by the majority of philosophers in the west. Even Descartes, from whom Spinoza learned much in the area of metaphysics, posited a plurality of mental and physical substances, along with God, whom he regarded as the paradigm of a substance. More importantly, it signals a rejection of classical theism, the idea that God is the creator of the universe who remains ontologically distinct from it and governs it according to his sovereign will.

Spinoza has nothing but scorn for this idea and dismisses it as a product of the imagination. How it is that he reconcile the relation between God, the infinite substance, and the order of finite things, becomes clear only as we turn to his account of the modal system. I will shorten Spinoza’s argument of god’s existence, I disagree with many of his conclusions, but there are others that I find resourceful. I’m not necessarily not support of his version of the ontological argument, but it’s definitely something to think about it. Brief sketch is like that:

1. Inability to exist is impotence. (Premise)
2. Ability to exist is power. (Premise)
3. If only finite entities exist, then finite entities are more powerful than an infinite entity.

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<sup>90</sup> Benedict De Spinoza; *Ethics*, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.9

(From 1 and 2)

4. Finite entities are not more powerful than an infinite entity. (Premise)

5. Either an infinite entity exists or nothing at all exists. (From 3 and 4)

6. Something exists. (Premise)

7. Therefore, an infinite entity exists. (From 5 and 6)

Premise (6) is, in fact, a posteriori. This leads many philosophers to conclude that Spinoza to defensive not an ontological argument, but as cosmological argument, I'm liable to agree it. I can see (1) and (2) being somewhat controversial, but I also think most people would agree with both premises, because of an intuition concerning the relationship between power and existence. Would something that has no power at all even exist? Moreover, isn't it a sign of power to exist necessarily than to possibly fail to exist at some time? This would also give support to premises (3) and (4) Premise (5) is true (assuming that 1-4 are true) because if there were only finite entities in existence, it would be because they are more powerful than an infinite entity, which (4) states is false. As a result, if anything at all exists, it implies that an infinite entity exists. Given that something exists, per premise (6), it follows than an infinite entity (God) exists.

God is neither the temporal creator of the world, as dualism and Christianity conceive him, nor even its father, as Cabalistic and Gnostic speculation assumes; he is the universe itself, considered the eternal universe. The words *God* and *universe* designate one and the same thing. Nature, which is both the source of all beings (*natura naturans*) and the totality of these beings considered as its effects (*natura naturata*). In short, Spinoza is neither a cosmist nor an atheist, but a Cosmo theist or pantheist in the strict sense of the word; that is to say, his cosmos is God himself, and his God is the cosmically substance.

All things are intertwined together and the common word is sacred, and scarcely one thing is foreign to another, for they have been arranged together in their places and together make the same ordered Universe. For there is one Universe out of all, one God through all, one substance and one law, one common Reason of all intelligent creatures and one Truth. Frequently consider the connection of all things in the universe. We should not say 'I am an Athenian' or 'I am a Roman' but 'I am a citizen of the Universe'. (Marcus Aurelius, Meditations).

Spinoza made his argument for pantheism with very rational rather than theological language. He starts with some accepted statements and then demonstrates how one can rationally conclude the oneness of the universe and God from those accepted truths. For example, both Jews and Christians accept that God is infinite. If he is infinite, argued by him, then the world cannot be outside of God, because that would mean there is something that God is not, and it is already accepted that God is everything. Some scholars argue that he allows for the possibility of pantheism, which is the belief that while all things are God, God also exists beyond those things. However, pantheism generally involves a personal God who makes active choices to create, while the God of Spinoza is impersonal. The universe exists precisely because God exists, not through any separate decision of God. To quote “Nothing in the universe is contingent, but all things are conditioned to exist and operate in a particular manner by the necessity of the divine nature”.<sup>91</sup> Whatsoever is, is in God, But God cannot be called a thing contingent. For him, exists necessarily, and not contingently. Further, the modes of the divine nature follow there from necessarily, and not contingently; and they thus follow, whether we consider the divine nature absolutely or whether we consider it as in any way conditioned to act. Further, God is not only the cause of these modes, in so far as they simply exist, but also in so far as they are considered as conditioned for operating in a particular manner. If they are not conditioned by God, it is impossible, and not contingent, that they should condition themselves; inversely, if they are conditioned by God, it is impossible, and not contingent that they should render themselves unconditioned. Wherefore all things are conditioned by the necessity of the divine nature, not only to exist, but also to exist and operate in a particular manner, and there is nothing that is Contingent Before going any further, I wish here to explain, what we should understand by nature observed as active (*natura naturans*), and nature viewed as passive (*natura naturata*). I can able to explain, or rather call courtesy to it, for I think that, from what has been said, it is sufficiently clear, that by nature viewed as active we should understand that which is in itself, and is conceived through itself, or those attributes of substance, which express eternal and infinite essence, in other words<sup>92</sup> God, insofar as he is considered as a free cause.

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<sup>91</sup> Benedict De Spinoza; Ethics, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.21

<sup>92</sup> Benedict De Spinoza; Ethics, edited and translated by Edwin curley with an introduction by Stuart Hampshire, Princeton university Press 1994, reprint by Penguin books 1996, p.12-13

By nature viewed as passive I understand all that which follows from the necessity of the nature of God, or of any of the attributes of God, that is, all the modes of the attributes of God, insofar as they are considered as things which are in God, and which without God cannot exist or be conceived. According to the purely causal interpretation of God's relationship to things, God is to be identified not with all of Nature, but merely with *Natura naturans*. God is only substance and its attributes, everything that follows from or is caused by or, to use the passive participle employed by Spinoza, *natured* by substance belongs to *Natura naturata*, and is thus distinct from God. To quote "The intellect in function, whether finite or infinite, as will, desire, love, etc., must be referred to passive nature and not to active nature."<sup>93</sup>

By the intellect I do not mean absolute thought, but only a certain mode of thinking, differing from other modes, such as love, desire, etc., and therefore requiring to be conceived through absolute thought. It must, through some attribute of God which expresses the eternal and infinite essence of thought, be so conceived, that without such attribute it could neither be nor be conceived. It must therefore be referred to nature passive rather than to nature active, as must also the other modes of thinking. I do not here, by speaking of intellect in function, admit that there is such a thing as intellect in potentiality: but, wishing to avoid all confusion, I desire to speak only of what is most clearly perceived by us, namely, of the very act of understanding, than which nothing is more clearly perceived. For we cannot perceive anything without adding to our knowledge of the act of understanding.

According to the substance or property inherence interpretation, favored by Bayle, God is both '*Natura naturans* and *Natura naturata*'. In spite of the simplicity and sophistication of the causal interpretation, it must be granted that, in the light of this distinction between '*Natura naturans* and *Natura naturata*', there is certain improvement to the reading according to which God is identical to the whole universe, in both its active invisible and passive visible aspects.

Spinoza identifies God with *Natura*, hence, when he tells us that *Natura* includes both a *naturans* aspect and a *naturata* aspect, the natural conclusion would seem to be that '*Deus*' is to be identified with both of these. God is both the active and the passive dimensions of Nature, what causes (or "natures") and what is caused (or "natured"). If, as IP29s claims, *Natura naturans* just is God, "in

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<sup>93</sup> Ibid., p.21

so far as he is considered as a free cause,” it would seem to follow that Natura naturata is also God, insofar as he is considered in some other method.

With his identification of God and substance and the consequent doctrine of immanence, he has departed a noble way from the traditional conception of God. The Judeo-Christian God is a transcendent being, it is ontologically distinct from the world. Even after bringing the world into being, and despite various trends of immanency in Jewish and Christian mystical thought, the Judeo-Christian God essentially stands outside its creation. For Spinoza, on the other hand, whether we identify God with the whole of Nature or only with certain fundamental and universal features of Nature, God literally is Nature. Or, to put it another way, God is in Nature not as something distinct from Nature but contained within it, as some forms of pantheism may hold, but just as elements of Nature itself are, by definition, in Nature.

As I shall see in the next chapter, this is only the beginning of Spinoza’s theological radicalism in the *Ethics*. His campaign against the anthropomorphizing of God takes an even more extreme and, to his critics, disturbing turn when he addresses the details of God’s causal relationship to the modes of Nature’s attributes, or particular things.

To conclude this, I could say that the idea of Spinoza’s substance is quite different and unique. At the beginning of chapter start with Descartes view of substance, which is dualistic account of substance has principal attribute means a lot for his explanation and God is superior. Then, Spinoza gives his credit for the substance which is same like Descartes one, but has some modifications for that substance. In his view, substance is self-caused, self-conceivable and independent whereas Descartes substance is dependent on God. The notion of self-caused made that substance is different from other philosophers. His substance is one and only substance, which he proved by giving substance monism. Spinoza made this argument with the help of Attributes and Modes. So then I’m going to discuss about those concepts in my next chapters.

### **3.13. The face of universe and concept of space and time.**

Spinoza distinguishes between a natural [formal] conception of time, which forms an innate property of the mind, and various conceptions of duration, derived from the application of the former to known objects. While the concept of duration presupposes created things, the concept of time presupposes both created things and thinking men. There are many ways by which ideas, like duration, are formed in the mind. But the essence of the corrective function of reason is to create a unified conception of Nature. This may suggest that the concept is in the mind alone. But, by Spinoza's naturalistic metaphysics, we would not have had this innate concept, had it not been a real property of Nature.

Spinoza developed his philosophy as a correction of his earlier following of Descartes. Descartes postulated that God, and two substances, thought and matter, extended in space-time, constituted the three components of the universe. Spinoza maintained that thought and extension were attributes of the same substance, which he identified with God, or Nature. The power of God is the dynamic power of this self-creating substance. Thought, as an attribute of Nature – to be distinguished from human thoughts – is represented by the laws of nature. Everything created by the power of God-Nature is a modification of substance. Such a thing retains that part of God's power that maintains its own existence. However, its actual existence is always a result of complex causal interactions of several things acting by several laws. Therefore, Spinoza defines the duration of a thing as an 'indefinite continuation of existing' [E. II, definition V]<sup>94</sup>.

It is indefinite because this continued existence does not follow from the nature of the thing itself [C. XII]. It is because our mind is incapable of grasping such complexity that, already at the level of perception, it abstracts essential features of those things which recognizing their effects on us is essential for our survival [TCU VI and XIV]. This is the reason we must be satisfied with knowing the world by its abstract logical structure, as it is best represented in mathematical equations, where the relations between things are reduced to the relations between their essential features by which they exist.

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<sup>94</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985, p.116

Descartes distinguished between objective and formal knowledge. The former is derived from known objects, and the latter like his analytic geometry provides knowledge of space that cannot be derived from objective knowledge. Spinoza agreed with Descartes that objective knowledge presupposes some formal knowledge, but only of the most general features of the universe by which we understand it. Apart from such general features, of which one is the conception of time, all knowledge of the world, including mathematically formulated knowledge, is objective knowledge. For example, we would not know the essence of a parabola namely its mathematical equation in a coordinate system without first knowing parabolas. And we know parabolas because they exist [part III of PCP]<sup>95</sup>.

Most remarkable among Spinoza's corrections of Descartes, is the correction of his claim that, in order to have a method on which we can rely, he had to prove the necessary existence of God, who imposed order on his creation. According to Spinoza, all we need is to acknowledge our natural tendency to reduce all knowledge into one idea, the object of which is understood as God's creation. The phrase 'the object of which' requires to say something about Spinoza's theory of mind.

In part II of the Ethics, proposition xiii says: "The object of the idea constituting the human mind is the body, or a certain mode of extension actually existing and nothing else." In other words, the concept 'mind' represents the totality of our ideas. Each idea represents an object of consciousness, not necessarily of thought. For example, when we feel hungry, we are conscious of certain physical changes in the body, combined with a tendency part of the body's conatus to restore the body to its natural capacity. This tendency is experienced as a desire combined with an idea how to do so. The latter involves ideas whose objects exist, i.e. 'have some mode of extension,' outside the body. The 'nothing else' is his claim that the function of the mind is to maintain the natural capacity of a person to act according to his internal power. Creating the knowledge how to do so, is the function of thinking.

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<sup>95</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985, p.99

A corollary of this conception of the mind is that, on the level of thought, the natural desire is to create a coherent idea of Nature with ourselves in it. According to Spinoza, the best way to fulfil this desire is to start from the ideas naturally characterizing our understanding, and, by using our natural power of reason, proceed to include all knowledge, while it's forming a coherent conception of Nature provides a standard of truth [TCU VII]<sup>96</sup>. The problem is that, although from his conception of human nature follows that in principle true ideas must be naturally embedded in our minds we do not directly know what they are. He explains that to say that to have a certain idea is natural is not to say that knowing it is easy to come by. A fact he compares to knowledge of the body, which everybody agrees that whatever happens in it is natural, but our knowledge of it is limited and difficult to gain [TCU IV].<sup>97</sup>

Concerning the concept of time, then, we must distinguish between a postulated undefined but naturally known conception of time, and the various conceptions of duration, which being objective knowledge, may differ with their 'objects.' While the concept of duration, he adds, presupposes created things, the concept of time presupposes both created things and thinking men [MT]<sup>98</sup>.

The presupposed thinking man is important because, when we contemplate the essential properties of objects we soon realize that we naturally have different conceptions of their durations. Obvious examples are a cyclical conception of the durations of the seasons of the year and of alternating days and nights, compared to the linear perception of a succession of sounds conceived as a melody, or the perception of successive phases in our child's development which we conceive as changes in one and the same person. But, according to Spinoza, having a formal, undefined concept of time is the condition for the very possibility of having any of these perceptions or conceptions of duration. Without it we would not even have memories of related events. Since the origin of this notion of time is in the human mind, it presupposes a thinking man. The presupposed thinking man is also important because we may err not only about our formal innate ideas, but also about our presupposed standard of truth. In the appendix to chapter I in *Ethics*, Spinoza explains how his contemporaries' tendency to create a unifying conception of Nature had led to such error. In other

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<sup>96</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985, p.143

<sup>97</sup> Ibid., p.126

<sup>98</sup> Ibid., p.129

words, the assumed correctness of knowledge may change when one standard of truth is replaced by another.

A correct presupposed conception of Nature which serves as a standard of truth is essential for creating true science [C. VI]. Yet, we must realize that the natural forces which led his contemporaries to create their comprehensive view are as natural as his own. The only way to distinguish between them is to rely on a dialectical method, based on the clear assumption that the more we understand the nature of our understanding, the better we can understand Nature, and the more we understand Nature, the better we shall understand ourselves. In this spirit, Spinoza listed the properties of our understanding, which he could consider essential by relying on his present knowledge [TCU XV].<sup>99</sup>

The third item in this list says that having a conception of a three dimensional space must be a property of our understanding because, it cannot not only be derived by induction from known spatial relations, but every such relation must presuppose it. The fifth item is a generalization of the former: when ideas are formed by understanding, the mind regards all things under ‘certain species of eternity,’ without considering their duration or number. This is contrary to things imagined or perceived, where things always have a definite spatial extension, duration and number. Spinoza's phrase ‘a certain species of eternity’ can be understood as the notion of an independent variable as used in statistics: abstractly, we think of it independently of any other variable. What mathematics does is to correlate the ways they in fact interact. Time is such a variable.

According to Spinoza, we can discover these independent components of understanding by a method of conceptual reduction by analyzing each concept to its components until we reach those which cannot be further analyzed. As the given examples of duration show, the fundamental concepts are not confined to any particular domain of knowledge. The concept of time must represent what is common to the duration of a season and a melody irrespective of other factors which determine their existence.

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<sup>99</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985, p.45

Although he deals with conceptual reduction, Spinoza insists that those concepts which enter scientific knowledge must represent real physical things [TCU XIV]. He explains that it is difficult to think of any abstract concept like ‘time’ as of a real physical thing because, being present everywhere, it is more easily conceived as a universal term – as nominalists say, as a name we give to all observed durations. In TCU XIII, Spinoza defines the conditions for considering such universal terms as real ‘uncreated’ properties of substance. ‘Uncreated’ means that, like substance itself, they have no cause outside themselves. These conditions are: I. No object outside it should be needed for explaining its definition. II. When the definition is given, no doubt should remain about whether or not it exists. III. It must contain no substantives which can be turned into adjectives. IV. All its properties should be concluded from its definition.

Since time is conceived independently of any other concept, condition I is satisfied. Similarly, condition II seems to be satisfied because some conception of time is always used in mathematical equations in physics, so we never doubt its existence. However, Spinoza repeatedly warns that we cannot deduce properties of reality from an understanding derived by reflection on their essence alone [C.IX]<sup>100</sup>. He accepted Descartes’ discovery that thinking is the essence of our being, in spite of its discovery by reflection alone, because, in this case, our awareness provides all the evidence we need and can have. But concerning knowledge of the world, he approved of the new scientists in England, who refused to deduce properties of the world from formal analysis, as Descartes did. This approval of empirical science is the meaning of Spinoza’s comment after his statement of condition III, that it means the same as a warning that a thing ought not to be explained by abstractions. Although today no scientist will derive a methodological rule from grammatical terms, condition III suggests that from the fact that we need words though, in this case, not adjectives for judging whether an event occurs before, after or simultaneously with another event, we should not deduce that a noun derived from them necessarily names a unique physical entity.

Condition IV is most clearly concerned with scientific theory, rather than with the real world. Since the rule concerns the most general concepts, applicable to all theories, they must agree with the general view of reality which serves as the ultimate standard of truth. However, since this unity of science is a result of the natural function of reason to create it, these concepts might be what

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<sup>100</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985, p.119

Spinoza calls instruments of our mind. How do we know whether the concept of time is not merely a useful construct of our minds, which might be either wrong or non-existent? According to Spinoza, we know that it must represent a real and unique physical entity only if we accept his conception of Nature. This follows from his definition of life, as "the force through which things persevere in their own being" [MT p.120]<sup>101</sup>, from which he derives his definition of the mind; the tendency to create a coherent system of knowledge, and the best method to do so. This method is based on the realization that the more we correlate true ideas to 'their objects' in reality, the more it becomes clear that things that are logically dependent (or independent) are also causally related (or unrelated) in reality; and conversely, the more we observe that things are causally related (or unrelated) in reality the more we understand that they must be logically related (or unrelated) in thought. Methodologically this means that the more we understand that the concept of time is a most general instrument of the mind necessary for creating a logically coherent science, the more we understand that it must be found in causal explanations of all conceptions of duration. And the opposite assertion means that this instrument of reason can be discovered by reflecting on what is logically common to all known causes of the durations of their various 'objects'. If a definition of time can be derived so that, as the fourth requirement says, all notions of duration follow from it, we have sufficient justification for considering it a true conception of a real component of the universe. The crux of the matter is that all this is valid provided Spinoza's metaphysical conception of Nature is accepted. According to Spinoza, the more one interacts with one's environment the more true knowledge is necessary for one's survival, a thesis which, in agreement with his conception of the mind, he summarizes in the proposition that the more one interacts with one's environment the more mind one has. That this 'more mind' must provide true knowledge which we need for survival, follows from his conception of life. Yet, there are many ways by which ideas are formed in the mind. The function of reason is to accept the true and reject the false ones. However, we would not have had concepts embedded in our minds had they not been modifications of a real property of substance. This, of course, follows from his naturalistic metaphysics, which cannot be proved. But, as Spinoza claimed, no science is possible without presupposing a general view of nature, even if to the dismay of most modern scientists this means a metaphysical view

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<sup>101</sup> Edwin Curley, trans. and ed. *The Collected Works of Spinoza Vol. 1*. Princeton: Princeton University Press, 1985, p.120

### **3.14. The status of Attribute and Modes**

To explain the variety of existence Spinoza formulates the doctrine of Attributes and Modes. Spinoza defines attributes as that “which the intellect perceives as con-stituting the essence of substance”.

God or Substance consists of infinite number of **“attributes of which each ex-presses an eternal and infinite essence”**. Of these infinite numbers of attributes, only two thought and extension can be known by human intelligence. In one sense each of the attributes of God is infinite.

For it completely represents the nature of God from one particular point of view. Thought is infinite in ‘its own sphere, but it is not absolutely infinite, for it is limited by extension and other attributes.

God is abso-lutely infinite: the attributes only in their kind. By his doctrine of attributes Spinoza tries to solve the problem of the relation of mind and matter which Descartes had failed to solve. Thought and extension are not as with Descartes two distinct and opposed substances but two attributes of one and the same substance two points of view from which the same substance may be apprehended.

There is no connection left, and no need for any. The attributes of substance are parallel to each other. Corre-sponding to every mode of thought, there is a mode of extension. None is superior to the other. Spinoza is opposed both to Spiritualism and Materialism, one of which tries to explain matter in terms of mind and the other mind in terms of matter.

#### **3.14.1. Relation between Substance and Attributes:**

There is a controversy as to what according to Spinoza is the exact relation between Substance and Attributes; whether the attributes are merely what our understanding ascribes to the substance or do they possess any reality apart from the knowing subject?

Does Spinoza mean that the attributes really constitute the essence of substance, or does he mean that the substance is the abstract and indeterminate unity and attributes are ascribed to it by the human intellect?

According to Kuno Fischer and others, attributes belong to the essence of sub-stance. The attributes are more than mere modes of representation. They are real properties which substance possesses even apart from an observer. God or Substance is the concrete unity of all things, hence the sum total of all attributes.

But this view cannot be reconciled with the doctrine of Spinoza viz., that Sub-stance is the indeterminate absolute of which all determinations are negations. There is nothing in the nature of substance which can logically justify these attributes. Spinoza gives no reasons why the attributes should belong to the substance.

Though Spinoza gives no reason, the motive which led him to ascribe attributes to substance is not difficult to understand.

As Caird says, "Had Spinoza not refused to be led by his own logic, his system would have ended where it began. Philosophy along with other things comes to an end in a principle which reduces all thought and being to nothingness". Moreover, "it is impossible to think an affirmation which affirms nothing in particular or is a pure blind affirmation devoid of all negations."

Hegel and Erdman, however, interpret Spinoza to mean that attributes do not and cannot belong to the nature of Substance which is indeterminate. But they are ascribed to the Substance by the human intellect. Substance itself is neither extended, nor cogitative but merely appears to the human understanding under these determinations; without which the latter (human understanding) would be unable to cognize it.

But this formal and strict interpretation of Spinoza's doctrine renders at once the solution of the problem of mind and matter, as given by Spinoza, absolutely meaningless. For if mind and matter do not really belong to the essence of substance, then there is no justification to assume that they are parallel throughout. This view also involves argument in a circle.

Attributes are said not to belong to substance but merely ascribed to substance or imagined to exist in substance by the finite intellect. Which is only a mode of an attribute, i.e. thought.

But finite intellect is itself only a mode or modification of one of the attributes of substance. The attributes therefore exist only through that which is simply a modification of one of them. Finite intelligence is supposed to create that by which it is itself created.

In fact, Hegel and Erdmann emphasize the first part of Spinoza's definition of attributes ("... that which the intellect perceives as constituting the essence of substance") and give an idealistic interpretation of Spinoza's theory of the relation between the substance and the attributes.

While Kuno Fishcher and others emphasize the last part of the definition ("... as constituting the essence of substance") giving thus a realistic interpretation of attributes. The qualified substance is the inner essence of the whole world. *Natura naturata* have been produced by the *Natura Naturans*. Such a qualified Monism is similar to Ramanujan's *Visitadvaita Vedanta* of Indian Philosophy.

Spinoza's doctrine of attributes is, thus, ambiguous and has given rise to much controversy. It is difficult to determine which of the above views Spinoza really held for passages from Spinoza may be quoted to support both the views.

Spinoza, however, found out a way by which it was possible for him to ascribe attributes to the substance without destroying its purely indeterminate nature viz., by distinguishing between what is "absolutely infinite" and what is "only infinite in its own kind."

The attributes which Spinoza ascribed to the substance were not finite but infinite, not negative but positive and, hence, limited by neither the infinite substance nor by each other.

According to Spinoza all finite distinctions disappear in the infinite. The attributes, however, are not finite since no one of them is limited by the rest or anything within its own sphere. Each one of the different attributes expresses the same infinite reality and the whole of that reality.

But, as Caird has rightly pointed out "The objectivity of the attributes cannot be maintained by this device. The attributes, though said to be infinite each in its own kind, are not really different in kind. The content of each is just the same as that of any other and the difference is only a difference in our ways of looking at it . . . Spinoza's reconciliation of diversity of attributes with absolute self-identical unity of substance is simply that the diversity is a purely subjective one."

### **3.15. Criticism of Spinoza's Doctrine of Attributes:**

- (1) We can say that Spinoza supplies us with no reason why mind and matter should be attributes of God. They are merely assumed to belong to God.
- (2) Again, Spinoza gives no reason as to the fact that, if there is an infinite number of attributes belonging to God, why human intellect knows only about two of them— mind and matter.
- (3) And if it knows only two of them, how does it come to know that there are others and infinite number of attributes parallel to each other?
- (4) Moreover, though Spinoza holds that mind and matter are parallel throughout, he is not always consistent with his own view. Mind perceives matter but matter cannot perceive mind. Towards the end of his philosophy Spinoza says that mind can become immortal by leading a spiritual life, but he does not show how matter can likewise become immortal.
- (5) The attributes, even if legitimately deduced, leave us still in the region of the infinite and furnish us with no clue to the finite world. The attributes are pseudo- infinite in which there is nothing to point to anything beyond themselves.

### **3.16. Benedict Spinoza's Doctrine of Modes and Their Relation to Substance:**

Spinoza's doctrine of modes and their relation to substance is an attempt to explain the existence of the finite world and its relation to the infinite. Spinoza attempts to derive the many from the one and the changing from the eternal by his doctrine of modes.

By mode, says Spinoza, "I mean the modification of the Substance or that which exists in and is conceived through something other than itself." The modes are, therefore, the actual finite objects of the universe. They exist in the Substance and are conceived through the Substance. They have no independent reality of their own.

The attributes Thought and Extension are infinite. They represent the intellectual and the material sphere of existence. But the modes of thought and extension represent the finite and particular minds and bodies of the world. Corresponding to every mode of thought there is a mode of extension e.g., there is a particular body corresponding to every particular mind.

### 3.17. The Relation of Modes with Attributes:

One of the modes to the attributes is left unexplained by Spinoza. If modes are finite and the attributes are infinite how to explain their reference to one another? Spinoza makes a last attempt to solve the problem of the relation between infinite and the finite in his conception of “**Infinite modes**”. These are the immediate modifications of attributes. As an example of an infinite mode of extension Spinoza mentions “motion”.

Motion itself is infinite though particular causes of motion are finite. This affords a seeming connection between the infinite substance and the finite objects of the world. But even the infinite modes are infinite. So the origin of the finite world of particular remains as obscure as ever.

In connection with the origin and status of the system of finite modes Spinoza is faced with the same difficulty as he had in connection with the attributes.

#### **Spinoza sometimes says:**

(a) That the modes follow from the nature of substance with as much necessity as particular properties follow from the nature of geometrical figures. Modes seem to be the actual finite and temporal parts of the Substance which is itself infinite and eternal. But how can the Substance, which is immutable, be modified? Hence there has been another interpretation of Spinoza's theory of modes viz.,

(b) That Substance is not modified at all, but modes are mere appearances. The *Natura Naturata* is nothing but imperfect conception of a finite intellect. If we take a view of all things under the form of eternity, we perceive that the particular modes are unreal and that the substance is the only reality.

What then are we? If the world of modes be a world of unreal appearances, then we ourselves are unreal. But how can the unreal finite intelligence have so much reality that it can imagine the unreal to be real?

In fact, Spinoza's theory of modes is founded on a presupposition that—the world of modes follows with geometrical necessity from God or substance. But this presupposition is only a baseless imagination. From an idea, what follows necessarily is also an idea, not the reality.

The properties of a triangle follow necessarily from the idea of a triangle, but those are only ideas of properties, not real properties. So, logically, the world of finite things and beings (the *Natura Naturata*) does not follow from the infinite and One Substance or God. The eternal unchanging substance can-not explain this changing world of objects.

As Hegel puts it, “Spinozism . . . might have been termed a cosmism. Since according to its teaching, it is not to the world, finite existence, the universe that reality and permanency are to be ascribed, but rather to God alone as the Substantial”. He has denied the world of many.

It is difficult to establish the reality of the finite world of many from the one all-embracing Substance. Spinoza thus sacrificed plural-ity at the altar of unity, many at the cost of one. Like a lion's den, footsteps can be seen to enter into it, but no footsteps can be seen to be coming out. Many is an illu-sion, only God is real, because God alone is self-existent. Spinoza's metaphysics is Pantheism all is God and God is all.

But we may say that this equation  $\text{God} = \text{World}$  may be treated in two ways: If we take it as  $\text{God} = \text{World}$  then Spinoza is a cosmist, but if we take the equation as  $\text{World} = \text{God}$ , then Spinoza is not at all world-denying. Rather it can be said that, according to Spinoza, the variety and plurality of this world is basically supported by 'one' unifying principle and that is God.

World is not an appearance or a mirage, but is real and God is inherent in each and every object of this world of many. This is Pantheism and Spinoza is called a 'God-intoxicated man'.

Thus we see that individuality remains unexplained in Spinoza's Philosophy. By no possibility could Spinoza connect the world of finite modes of existence in time with the true and eternal (timeless he means) reality of God and consequently he leaves the finite world without explanation.

Logically he should have denied the finite world altogether. Yet he could not boldly declare the same, for his metaphysics is nothing but preparation for his ethics. His motive is mainly practical

and the whole purpose of his philosophy is to show how man, being a part of the phenomenal world, can escape its finitude and attain true freedom. This much is his metaphysics.

### **3.18. Spinoza's World:**

The structure of substance, attribute, and mode is the foundation of Spinoza's metaphysics. "It is an extensive belief that he equated God with the material universe. However, in a letter to Henry Oldenburg he states that: "as to the view of certain people that I identify god with nature taken as a kind of mass or corporeal matter, they are quite incorrect". For him, our universe (cosmos) is a mode under two attributes of Thought and Extension. God has infinitely many other attributes which are not present in our world. According to German philosopher Karl Jaspers, when he wrote "Deus sive Natura" (God or Nature) he meant God was 'Natura naturans' not 'Natura naturata', and Jaspers believed that Spinoza, in his philosophical system, did not mean to say that God and Nature are interchangeable terms, but rather that God's transcendence was attested by his infinitely many attributes, and that two attributes known by humans, namely Thought and Extension, signified God's immanence. Even God under the attributes of Thought and Extension cannot be identified strictly with our world. That world is of course "divisible", it has parts. But Spinoza insists that "no attribute of a substance can be truly conceived from which it follows that the substance can be divided", which means that one cannot conceive an attribute in a way that leads to division of substance, and that "a substance which is absolutely infinite is indivisible".<sup>102</sup> Following this logic, our world should be considered as a mode under two attributes of Thought and Extension. Therefore the pantheist formula "One and All" would apply to him, only if the "One" preserves its transcendence and the "All" were not interpreted as the totality of finite things."

For Spinoza, *natura naturans* (naturing nature) refers to the self-causing activity of nature, while *natura naturata* (natured nature) refers to nature considered as a passive product of an infinite causal chain. He defined it as "Nature in the active sense" as opposed to *natura naturata*. The distinction is expressed in his *Ethics* as follows: "By *Natura naturans* we must understand what is

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<sup>102</sup> Garrett, Don. *The Cambridge Companion to Spinoza*, Cambridge and New York: Cambridge University Press. (ed.)1996, p.9

in itself and is conceived through itself, or such attributes of substance as express an eternal and infinite essence, that is God, insofar as he is considered as a free cause. But by *Natura naturata* I understand whatever follows from the necessity of God's nature, or from God's attributes, that is, all the modes of God's attributes insofar as they are considered as things which are in God, and can neither be nor be conceived without God." This gives us a contrast between what is creating and what is created. What is creating is the eternal existence and nature of God. What is created are the modifications that we see around us as transient things. This distinction cuts across the nature of the attributes themselves, since there is an eternal and unchanging aspect to each, i.e. space itself or consciousness itself, and a transient and changing aspect, i.e. material objects in space or specific thoughts in consciousness. At the same time, there is nothing changing about substance as such or unchanging about the modes as such.

While for Spinoza all is God and all is Nature, the active or passive dualism enables us to restore, if we wish, something more like the traditional terms. *Natura Naturans* is the most God-like side of God, eternal, unchanging, and invisible, while *Natura Naturata* is the most Nature-like side of God, transient, changing, and visible. How does *Natura Naturans* do the creating? By necessity, the necessity of God's own nature. His God does not make choices, does not really have a will, which would imply deliberation or alternatives. His God is perfect, which means everything is as it must be and cannot be otherwise.

God's eternal nature necessitates the things that happen, which happen just as they must and cannot happen otherwise. This all follows from the premise of God's perfection. It is deterministic. Chance or randomness would be an imperfection. Since only God exists, it is also true that God causes everything to happen that does happen. However, Spinoza goes a bit further. His God does nothing for any purpose. There are no ends or "final causes" in Spinoza. It would be an insult to God's perfection to imagine that he does things to bring about some end, which would mean to make things better or to bring into existence something that doesn't exist already but should. Things are already perfect, and everything that will ever exist already exists, since God is the only thing that exists.

### **3.19. Theory of causality:**

Spinoza's God is self-caused (*causa Sui*)<sup>103</sup>, by cause of itself I understand that whose essence involves existence, or that whose nature cannot be conceived except as existing. He further clarified that whatever is, is either in itself or in another; what cannot be conceived through another, must be conceived through itself only. And to say more about causality is that, from a given determinate cause the effect follows necessarily; and conversely, if there is no determinate cause, it is impossible for an effect to follow. The knowledge of an effect depends on, and involves, the knowledge of its cause. If a thing can be conceived as not existing, its essence does not involve in existence. Therefore, Substance i.e. God is prior in nature to its affections and self-caused.

From the necessity of the divine nature must follow an infinite number of things in infinite ways that is, all things which can fall within the sphere of infinite intellect. This proposition will be clear to everyone, who remembers that from the given definition of anything the intellect infers several properties, which really necessarily follow therefrom that is, from the actual essence of the thing defined; and it infers more properties in proportion as the definition of the thing expresses more reality, that is, in proportion as the essence of the thing defined involves more reality. Now, as the divine nature has absolutely infinite attributes, of which each expresses infinite essence after its kind, it follows that from the necessity of its nature an infinite number of things that is, everything which can fall within the sphere of an infinite intellect must necessarily follow.

From the above proposition, 'three' corollaries follow:

1. Hence it follows, that God is the efficient cause of all that can fall within the sphere of an infinite intellect.
2. It also follows that God is a cause in himself, and not through an accident of his nature.
3. It follows, thirdly, that God is the absolutely first cause.

Which gives rise to followings:

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<sup>103</sup> Garrett, Don. *The Cambridge Companion to Spinoza*, Cambridge and New York: Cambridge University Press. (ed.)1996, p.92

1. That there can be no cause which, either extrinsically or intrinsically, besides the perfection of his own nature, moves God to act.

2. That God is the sole free cause. For God alone exists by the sole necessity of his nature, and acts by the sole necessity of his own nature, wherefore God is the sole free cause.

Here we have to keep in the mind that, Others think that God is a free cause, because he can, as they think, bring it about, that those things which we have said follow from his nature that is, which are in his power, should not come to pass, or should not be produced by him. But this is the same as if they said, that God could bring it about, that it should follow from the nature of a triangle that its three interior angles should not be equal to two right angles; or that from a given cause no effect should follow, which is illogical.

In addition, I will further explore, without the aid of this proposition, that neither intellect nor will appertain to God's nature. I know that there are many who think that they can show, that supreme intellect and free will do relate to God's nature; for they say they know of nothing more perfect, which they can attribute to God, than that which is the highest perfection in ourselves. Further, although they conceive God as actually supremely intelligent, they yet do not believe that he can bring into existence everything which he actually understands, for they think that they would thus destroy God's power. If, they oppose, God had created everything which is in his intellect, he would not be able to create anything more, and this, they think, would clash with God's omnipotence. Therefore, they prefer to assert that God is indifferent to all things, and that he creates nothing except that which he has decided, by some absolute exercise of will, to create.

Nonetheless, I think that I have presented sufficiently and clearly with above explanation.<sup>104</sup> That from God's supreme power, or infinite nature, an infinite number of things that is, all things have necessarily flowed forth in an infinite number of ways, or always flow from the same necessity; in the same way as from the nature of a triangle it follows from eternity and for eternity, that its three interior angles are equal to two right angles.

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<sup>104</sup> Garrett, Don. *The Cambridge Companion to Spinoza*, Cambridge and New York: Cambridge University Press. (ed.)1996, p.39

Therefore the omnipotence of God has been displayed from all eternity, and will for all eternity remain in the same state of activity. This manner of treating the question attributes to God an omnipotence, in my opinion, far more perfect. Otherwise, we are compelled to acknowledge that God understands an infinite number of creatable things, which he will never be able to create, if he created all that he understands, he would, according to this showing, exhaust his omnipotence, and render himself imperfect. Hence, in order to establish that God is perfect, I have to be reduced to establishing at the same time, that he cannot bring to pass everything over which his power extends.

Further to say a word concerning the intellect and the will, which we attribute to God, if intellect and will appertain to the eternal essence of God, we must take these words in some significance quite different from those they usually accept. For intellect and will, which should constitute the essence of God, would necessarily be as far apart as the poles from the human intellect and will, in fact, would have nothing in common with them but the name; there would be about as much correspondence between the two as there is between the Dog, the heavenly constellation, and a dog, an animal that barks. If intellect belongs to the divine nature, it cannot be in nature, as ours is generally thought to be, posterior to, or simultaneous with the things understood, inasmuch as God is prior to all things by reason of his causality. On the contrary, the truth and formal essence of things is as it is, because it exists by representation as such in the intellect of God. Wherefore the intellect of God, in so far as it is conceived to constitute God's essence, is, in reality, the cause of things, both of their essence and of their existence. This seems to have been recognized by those who have asserted, that God's intellect, God's will, and God's power, are one and the same. And, as a result, God's intellect is the sole cause of things, namely, both of their essence and existence, it must necessarily differ from them in respect to its essence, and in respect to its existence. For a cause differs from a thing it causes, precisely in the quality which the latter gains from the earlier.

For example, a man is the cause of another man's existence, but not of his essence (for the latter is an eternal truth), and, therefore, the two men may be entirely similar in essence, but must be different in existence; and hence if the existence of one of them cease, the existence of the other will not necessarily cease also; but if the essence of one could be destroyed, and be made false, the essence of the other would be destroyed also. So, a thing which is the cause both of the essence and of the existence of a given effect, must differ from such effect both in respect to its essence,

and also in respect to its existence. Now the intellect of God is the cause both of the essence and the existence of our intellect.

God is the indwelling and not the transient cause of all things. Which can be explained that, all things which are, are in God, and must be conceived through God, therefore God is the cause of those things which are in him. This is our first point. Further, besides God there can be no substance, that is nothing in itself external to God. This is our second point. God, therefore, is the indwelling and not the transient cause of all things. God is the efficient cause not only of the existence of things, but also of their essence. That by which things are said to be conditioned to act in a particular manner is necessarily something positive. Thus, both of its essence and of its existence God by the necessity of his nature is the efficient cause; this is my first point. My second point is simply to be inferred that is, if a thing, which has not been conditioned by God, could condition itself, the first part of our proof would be false, and this, as I have revealed is inconsistent.

Whatever is conditioned to exist and act, has been thus conditioned by God. As certain things must be produced immediately by God, namely those things which necessarily follow from his absolute nature, through the means of these primary attributes, which, nevertheless, can neither exist nor be conceived without God, it follows:

1. That God is absolutely the proximate cause of those things immediately produced by him. I say absolutely, not after his kind, as is usually stated. For the effects of God cannot either exist or be conceived without a cause.

2. That God cannot properly be styled the remote cause of individual things, except for the sake of distinguishing these from what he immediately produces, or rather from what follows from his absolute nature. For, by a remote cause, we understand a cause which is in no way conjoined to the effect. But all things which are, are in God, and so depend on God, that without him they can neither be nor be conceived. All things necessarily follow from the nature of God, and by the nature of God are conditioned to exist and act in a particular way<sup>105</sup>. If things, therefore, could have been of a different nature, or have been conditioned to act in a different way, so that the order of nature would have been different, God's nature would also have been able to be different from

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<sup>105</sup> Garrett, Don. *The Cambridge Companion to Spinoza*, Cambridge and New York: Cambridge University Press. (ed.)1996, p.221

what it now is; and therefore that different nature also would have perforce existed, and consequently there would have been able to be two or more Gods. As a result, things could not have been brought into being by God in any other manner. As I have thus presented, more clearly than the sun at noonday, that there is nothing to justify us in calling things contingent, I wish to explain concisely what meaning I shall attach to the word contingent; but I will first explain the words necessary and impossible.

A thing is called necessary either in respect to its essence or in respect to its cause. For the existence of a thing necessarily follows, either from its essence and definition, or from a given efficient cause. Meant for similar reasons a thing is said to be impossible; namely, in as much as its essence or definition involves a contradiction, or because no external cause is established, which is conditioned to produce such an effect; but a thing can in no respect be called contingent, apart from in relation to the imperfection of our knowledge. A thing of which we do not know whether the essence does or does not involve a contradiction, or of which, knowing that it does not involve a contradiction, we are still in doubt concerning the existence, because the order of causes escapes us, such a thing, I say, cannot appear to us either necessary or impossible, therefore I call it contingent or possible.

### **3.20. Bayle Interpretation on Spinoza Substance**

Bayle's interpretation understands that Spinoza used terms such as 'substance' and 'modes' in much the same way as Descartes and other seventeenth century philosophers and the Scholastics did. And because Bayle understands Spinoza to be a Cartesian, he is very critical of Spinoza because he (Bayle) understood that Spinoza's monism, his doctrine that only one substance exists, incurred a number of absurdities, which undermined Spinoza's whole philosophical system.

Bayle understood that "*Spinoza taught, 1. That there is but one only substance in the Universe, 2. That this substance is God, 3. That all particular beings... the sun, the moon...are modifications of God*", and anyone who is acquainted with Spinoza's thought would agree with Bayle here. However, one of the problems with Bayle's interpretation lies in his understanding of the relation between substance and mode within Spinoza's thought. On commenting on the relation between substance and mode Bayle writes: "*It is the general doctrine of Philosophers, that the idea of being contains two species under it, viz. substance and accident (mode), and that a substance subsists*

*by itself... and that an accident subsists in another being. They add that subsisting by one's self, signifies only not depending upon a subject of inhesion...*

*As for accidents (modes)... they essentially depend upon their subject of inhesion...*" Bayle understands that philosophers in general (that is, philosophers of his age) hold that substance is whatever is independent and corresponds to a subject, as opposed to a mode, which is whatever is dependent and corresponds to a predicate. This is a very Cartesian and Scholastic understanding of substance and mode as I argued previously. It follows that Bayle held that Spinoza understood that substance is an independent entity, which served as the subject in which different properties or qualities (i.e. modes or modifications or accidents) inhere; and because substances are supposed to be independent, substances do not inhere in anything, but themselves; modes, on the contrary, are dependent, that is, a mode is supposed to inhere in a substance and it cannot exist without that very substance in which it inheres. The following passage from Bayle corroborates this as he explicitly says that Spinoza is a Cartesian. I quote: "*Descartes, Gassendus, and in general, all those who have forsaken the scholastic philosophy, deny that an accident (mode) can be separated from its subject, so as to subsist after its separation, and they give to all accident (mode) the nature of those that were called modes, and use the terms, mode, modality, or modification, rather than accident. Now since Spinoza was a Cartesian, it is reasonable to think that he put the same sense upon those words as Descartes did*".

The fundamental issue with Bayle's reading is that he holds that the term 'substance' is analogous to the grammatical term 'subject' and the term 'mode' is analogous to the grammatical term 'predicate', that is, the relation between substance and mode is analogous to the relation between a subject and its predicate. Accordingly, Bayle understands that when Spinoza asserts that there is only one substance, which is God or Nature, and that everything else in the world is a modification of this substance, that Spinoza is asserting that God is the sole subject in which properties or qualities inhere, and that everything in the world is a property or quality of God.

Bayle argues that such a conception of substance is mistaken because it will lead to a number of absurdities. The first absurdity is described by Bayle when he writes: "*But to affirm that men are modifications of the one and the same Being, that consequently God only acts, and that the same individual God being modified into Turks and Hungarians... is to advance a thing more monstrous...than all delirious men shut up in mad-houses. Take particular notice that modes do*

*nothing, and that substances only act and suffer...Thus, according to Spinoza's system, whoever says, 'the Germans have killed ten thousand Turks', speaks improperly and falsely, unless he means 'God modified into Germans has killed God modified into ten thousand Turks': and therefore all phrases made use of to express what men do one against another, have no other true sense but this, 'God hates himself', 'he asks favors of himself', and 'he refutes them to himself'...".<sup>106</sup>*

By holding that Spinoza understood that a substance is a subject and a mode is a predicate, Bayle argues that Spinoza's thought is inconsistent because it allows the absurd consequence that God ends up being the sole agent as well as the sole patient in the world. Just for the sake of providing the reader with a further example following Bayle's line of argument, let us hold that there is only one substance, and that this substance is God, and that this substance is something like a subject. Moreover, that you, the reader, and I, are modifications of this unique substance, and thus we are something like qualities because we inhere in this substance. Since we are qualities of a substance we cannot be agents because we are predicates of a subject, and predicates do not act, only subjects do. Thus, if we were in conversation one could say that sentences such as 'you are listening to me', really mean something like 'you are listening to God', because I am a mode or quality of God and therefore I cannot be an agent or a patient. Only God, as the only substance and subject, can be agent and patient. This can be taken further to something like 'God is listening to God', because you are also a mode or quality of God, and therefore you cannot be an agent or a patient, only God can.

The second absurdity is that by reading Spinoza in this light, Spinoza's substance, God, becomes extremely mutable or changeable. This consequence can only be drawn because Bayle assumes that there is a sort of transitivity between the properties which are possessed by a mode and the properties which are possessed by a substance, i.e. if M is a mode of substance S, then if M changes, it follows that S also changes. Let me demonstrate this with the following example: people die and are born all the time. Thus, it follows that the substance, God, is changing all the time because its modes, its qualities, are changing all the time. This has implications for the generally assumed theological premise that 'God is perfect'. If something is perfect it cannot be

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<sup>106</sup> *Principles of Cartesian Philosophy* (PCP), 1663. Translated by Samuel Shirley. Hackett Publishing Company, Indianapolis/Cambridge, 1998. P.227

changing all the time. It is just perfect, it has achieved a state of perfection. And if it is still changing, then it cannot have achieved that state of perfection. I remind the reader here that this is a direct implication of Bayle's reading Spinoza as a Cartesian about modes and substance, and that it may not arise if a different reading of Spinoza is taken.

The third implication follows directly from the above one. By reading Spinoza's concepts of substance and mode within a Cartesian framework the substance, God, will possess contradictory qualities. This is so because of Bayle's assumption that there is some sort of transitivity between the qualities which are possessed by a mode and the qualities which are possessed by a substance. This allows for cases such as: M1 and M2 are modes of substance S; and M1 and M2 possess contradictory qualities; and therefore, following Bayle's assumption, S possesses contradictory qualities, which is illogical. For instance: at any given time some people are healthy, other people are sick; health and illness are contradictory qualities. But since people are qualities of God, then it follows that God is healthy and sick at the same time. That is, God possess contradictory qualities, which is a violation of logical laws (something like S is p and  $\neg$ p at time t). It is worth quoting here the following passage of Bayle where he hints at the problems of mutability in the substance: *"And yet it (God) is the most sensible and proper example that there can be given of a mutable Being, and actually liable to all sorts of alterations and internal changes...it follows, that the God of the Spinozists is a Being actually changing, that goes continually through several states internally and really different from another. It is not therefore the most perfect Being, with whom there is no variableness..."*<sup>107</sup>

### **3.21. Why Spinoza is not a Cartesian about Substance.**

I argue that Bayle's interpretation is consistent but mistaken. The problem with Bayle's interpretation is that it is based on the assumption that Spinoza is using the concepts of substance and mode in exactly the same way as the Cartesians and Scholastics did. I believe this to be a mistake, and therefore, it does not necessarily follow that Spinoza's system incurs the absurdities inferred by Bayle's interpretation. I shall now attempt to demonstrate that Spinoza did not follow the Cartesian and Scholastic terminology to the letter. Rather, he developed it further. If I am

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<sup>107</sup> *Principles of Cartesian Philosophy* (PCP), 1663. Translated by Samuel Shirley. Hackett Publishing Company, Indianapolis/Cambridge, 1998. P.229

successful in my argumentation then I argue that Bayle's criticism are undermined and that his interpretation must be rejected.

It is my understanding that Bayle fails to acknowledge that Spinoza ascribes an extra element to his concept of substance and this is the second problem with his interpretation. That is, Spinoza asserts that a substance must be self-conceived, i.e. self-caused. Spinoza understands that a substance must not be conceived or caused by anything else. If something is caused by something else it is not a substance but a mode or modification of the substance, I quote:” *Existence appertains to the nature of substance; Proof: A substance cannot be produced from anything else; it will therefore be its own cause*” (E I p7). This extra element is crucial in placing Spinoza's understanding of substance apart from the Cartesian's understanding of that same term. That is to say, that the Cartesian understands that the two kinds of substance (viz. mental and the extended) are not self-created but created by God, and dependent on God for their existence. In fact, this extra feature that Spinoza's substance possess, namely self-creation, disqualifies, generally speaking, all things that the Cartesian calls as substance. An entity which is not self-created and that depends for its existence on something else, such as the Cartesian mental and extended substances, is not a substance for Spinoza.

For Spinoza the mental and the extended are attributes of the substance. The substance has an infinite number of attributes, of which human beings can only access two, namely the mental and the extended (cf. E I p 11;). An attribute is a complete and accurate account of the substance (cf. E I p 10; p 11), i.e. they are ways by which Reality can be described, e.g. one can describe Reality by referring solely to concepts – mental attribute of the substance, or one can describe Reality by referring solely to physical things – extended attribute. Human beings can do both of these things, and that is why human beings have access to the mental and extended attributes. It could be said that attributes are disturbances in the substance, they are disturbances of being. Modes are created through the substance's attributes, and as such, the relation between the substance and its modes is a causal relation, i.e. the substance causes the modes to exist through its attributes (cf. Scruton 1999:12). For instance: the extended attribute is a disturbance in the substance and a body is a modification of that disturbance; or the mental attribute is a disturbance in the substance and a thought is a modification of that disturbance (cf. the modes of any attribute of God have god for their cause only in so far as he considered *through that attribute, and not in so far as he is*

*considered through any other attribute* (E II p 7)). Accordingly, Bayle's interpretation faces two fatal mistakes. First, Bayle fails to acknowledge that Spinoza has, in fact, modified the Cartesian and Scholastic terminology, that Spinoza has modified the meaning of the concepts of mode and substance. Second, Bayle understands that within Spinoza's system the relation between substance and mode is a relation akin to a subject-predicate relation, but this is a mistake because for Spinoza modes are not *predicable* of his substance, and that is to say that modes are not qualities of the substance. Rather, for Spinoza, modes *depend on* the substance for their existence because the modes are conceived through the attributes of the substance, and this implies that the relation between the substance and its modes is a causal relation, which is implemented through the attributes of the substance. Therefore, Spinoza would never say that something is *predicable* of the substance, God, as Bayle presupposes; rather, Spinoza would only say that a thing *depends on* the substance, God, for its existence because it is caused by the substance, God, to exist.

I therefore have argued and now conclude that Bayle fails to acknowledge that Spinoza's concept of substance and mode are distinct from the Cartesian and Scholastic understanding of these terms as well as failing to understand that the relation between substance and mode is not akin to the relation between subject and predicate but akin to a causal relation, and as such, Bayle's interpretation must be rejected as it is an inaccurate account of Spinoza's views.

## **Chapter 4**

### **Leibniz Concept of Substance and Substance pluralism.**

#### **4.1. Leibniz Critique on Spinoza's Substance:**

As philosophers writing during the scientific revolution, Spinoza and Leibniz define an important point in modern philosophy that considers the nature of the world and being in the context of exponentially increasing knowledge about the physical principles of the universe. As rationalists, both of these men present rigorous *a priori* reasoning to articulate elegant metaphysical doctrines about the world through Euclidian reasoning; that is, both philosophies begin with a set of definitions or axioms from which propositions and conclusions are presented and argued for through proofs utilizing previous conclusions. The method is unique and effective, as it contains the philosophy within a closed system rather than leaving many important elements such as definitions or terms to the reader's discretion. In sum, it makes a dynamic, scientific and understandable format given the astute metaphysical arguments presented. At the substantial level, Spinoza and Leibniz differ fundamentally, yet both can firmly advocate the existence of God, commonality to all things and the apparent necessity of a determinate universe by arguing from completely different notions of substance.

Spinoza elects to pursue a pantheist attitude toward metaphysics, claiming that there is but one infinite substance. However, we ought to review his preliminary definitions so further discussion is not without reference. Spinoza begins by defining substance as “that which is in itself and is conceived through itself; that is, the conception of which does not require the conception of another thing from which it has to be formed.” He further believes that this substance is self-caused, i.e. that its nature is reflected purely in its existence (P1, 3).<sup>108</sup> This implies that substance exists unto itself and does not require the existence of any other thing in order to exist, i.e. a substance's essence lies in its existence. Furthermore, Spinoza's substance possesses ‘attributes’ and is affected by ‘modes,’ where the former refers to the perceived essence of a substance and the latter to the affections of a substance, which are in and can be conceived through something else (P4,5)<sup>109</sup>. As such, the only existing things in Spinoza's conception of the universe are substance

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<sup>108</sup> Jolley, Nicholas. *Leibniz*. Routledge, 2005, p.18

<sup>109</sup> Ibid., p.18

and the modes that affect it (P15). As we will see, this is fundamentally different that ideas found in Leibniz, yet will lead to many of the same conclusions. Leibniz, by contrast, argues for a universe composed of infinite individual substances, or ‘monads.’ The monad is an individual substance that begins by creation, ends by annihilation and expresses everything about the universe and itself completely, inclusive of all actual and potential past, present and future notions about a thing (DoM 8-9, My 1-6)<sup>110</sup>. Given this, we can use the terms monad and substance interchangeably from this point forward. A monad is essentially unextended and unique and has ‘no windows,’ i.e. it is a self-contained thing that contains complete notions of all things pertaining to its existence. Monads are also characterized by a form of perception that allows them to complement other monads such that they do not causally interact, yet proportionally and uniquely express the whole universe (My 7, 21)<sup>111</sup>. As such, no substance can be completely identical to another, as each monad must contain a unique, complete notion about itself (DoM 8-9)<sup>112</sup>. Contrary to Spinoza, Leibniz argues that God causes the existence (‘is the source’) of all substances and governs their interactions such that they have the properties discussed above (My 43)<sup>113</sup>. His philosophy is based on God concentrating himself in substance itself and possessing the ability to act on all substances by his own volition. Furthermore, Leibniz’s monadology brings him to a view of the universe that involved a multiplied infinitely in each self-contained monad and more so polarizes him from Spinoza, who we just described as arguing for a solitary infinite substance that constitutes all things. In Leibniz, we see an equally intelligible and rational proposition for infinite substances as we did for one infinite substance in Spinoza.

Spinoza’s idea of God is quite different from that argued by Leibniz. Contrary to the conception a being that creates substance, Spinoza’s God is the one essential, infinite substance of the universe. It cannot be limited by another thing of the same nature by virtue of it being infinite in fact, it becomes impossible that another substance can possibly exist (P2, 6). Additionally, it is intelligible to refer to God as “he” for arguments’ sake, but it is important to note that the Spinozian God is more an “it” for reasons that will be clearer later. In contrast to Leibniz, Spinoza’s notions of a universal substance give way to compelling arguments that starkly oppose the widely considered

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<sup>110</sup> Antognazza, Maria Rosa, *Leibniz: An Intellectual Biography*, Cambridge: Cambridge University Press.2006, p.9

<sup>111</sup> Ibid., p.21

<sup>112</sup> Ibid., p.9

<sup>113</sup> Ibid., p.43

corporeal nature of God and corporeal substance itself. Additionally, Spinoza argues that nothing can be conceived without God as he is the infinite substance and as such, imagination of God as having the likeness of man or any other corporeal configuration strays from knowledge of the truth (P15)<sup>114</sup>. Simply, the notion of a corporeal or embodied God is contradictory in Spinoza's system because it implies a finite substance, and since something infinite is more perfect than something finite and God is the most perfect thing, God must be infinite and thus expel any possibility being embodied or finite in any way. In addition to this definition of substance, Spinoza also provides in his axioms that for each determinate cause there follows an effect, that effect is impossible without a determinate cause, and that knowledge of such effects is dependent on their cause. We should note that these axioms are important to Spinoza's metaphysics because they abolish the possibility of more than one substance and the void existence of any uncaused motion in the universe, and this will be discussed at length later on. For now, it is sufficient to understand that Spinoza argues cause and effect as notions originating in substance itself

Leibniz chooses a different approach to cause and effect, mainly though arguing for basic principles in physics that he says have metaphysical considerations (DoM 17-18)<sup>115</sup>. Recall that Leibniz's philosophy begins with God and his causative power, as this will be crucially important in translating the following physical doctrine into metaphysical notions. Leibniz proposes that it would be reasonable to consider that God conserves all force on physical bodies and that force is diminished only in proportion to another imparting force upon it. Notice that this is reflective of ideas in his monadology in that a monad's expression is complementary to other monads. Contrary to other current beliefs about physics at the time, Leibniz proposes a system in which force is not proportional to motion, but rather the cause of it, such that quantity of motion in two bodies can be different, while the quantity of force remains the same. Thus, force must be determined by the magnitude of the effect it produces in an object, e.g. the height an object is propelled to, rather than the speed (motion) that is imparted on it. In other words, force is proportional to the effect it produces rather than to the quality of motion of an object (DoM 18). But what does this have to do with metaphysics? In this argument, force serves as a cause that allows us to seek the principles of existence of an observed effect. Similarly, Leibniz suggests that we can understand God as the

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<sup>114</sup> Roger Ariew and Daniel Garber trans. and ed. *G.W. Leibniz: Philosophical Essays*. Indianapolis: Hackett, 1989, p.15

<sup>115</sup> Ibid., p.17-18

cause of substance and therefore, the final cause of all distinguishable, perceivable phenomenal effects (DoM 19).<sup>116</sup> That is, God exercises different types and magnitudes of causal force on substances such that they are proportional (and not identical) to one another, just as we can understand that physical force may be attributed to one body more than another. These substantial differences ultimately account for the phenomenal differences we can perceive and thus, we have transposed physical notion of force and corporeal bodies to an understanding of metaphysical causation.

In terms of cause and effect, Spinoza suggests that that since things must be caused and that there is one infinite substance, it follows that things are distinguished by differences in substantial attributes presented to the intellect rather than by differences in substance itself. In this sense, all things are an affection of God, that is, they share commonality in substance while having different attributes. Crucially, it is contradictory for two or more substances to exist since substance is infinite by definition – additional substance(s) would render each other finite and thus void them of essential substantial quality (P5). Alternatively, these would have to be identical substances, which abolishes the need for a distinction in the first place. From this, it becomes impossible that one substance can cause another, as the created substance is not a substance if it is not self-caused, and thus not substance based on Spinoza's definitions (P6). Furthermore, Spinoza argues that quantity of substance is irrelevant to its definition as there must have been a deeper cause for its enumeration (P8). By the definition of substance given earlier, the cause is found in the substance itself and has to do with existence, not enumeration. Thus, Spinoza firmly establishes the existence of one infinite divine substance that necessarily exists and must be conceived through nothing else but its own existence.

Given the above, all things are conceived through God and are ultimately conceived in or by God as a condition of existence (P15). As such, we can understand God's essence as existence and vice-versa, further enforcing that nothing that exists can be conceived without God, and there are yet more truths about the nature of an infinite substance that Spinoza accounts for that can be taken as also describing the nature of God. For one, it is also important to note that God possesses infinite attributes as a result of his nature. That is, because God's nature consists in his essence alone, he

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<sup>116</sup> Roger Ariew and Daniel Garber trans. and ed. *G.W. Leibniz: Philosophical Essays*. Indianapolis: Hackett, 1989, p.15

necessarily contains all the attributes and affections that are existentially possible (P8, 11). In short, because God has an infinite nature and infinite attributes that express his infinite essence perfectly, everything finite or mental follows from him and his perfect nature. It is this perfect nature and the truth that nothing causal exists outside of God, argues Spinoza that moves God to act in the way he does as unconstrained free cause acting solely from laws of his own perfect nature (P17).<sup>117</sup>

At this point, it is worth appreciating that Leibniz and Spinoza have develop their metaphysics from two polar positions, but converge at notions of perfection and discussions of God's causal nature. Like Spinoza, Leibniz argues principally that God is perfect and contains within him all the perfections in nature. As such, the Leibnizian God does everything in the most desirable way and has thus created (for us) the best possible world that there could be. Furthermore, Leibniz argues against those who claim there is no good in God's works or that goodness is arbitrary by ascribing the quality of 'good' to God's actions simply by virtue of than coming from God himself. That it, God does not need to will actions to be good – they are simply good because they come from him in fact, Leibniz applauds Sacred Scripture for using anthropomorphic expressions to make us understand this idea that all things coming from God are good. How then can we account for the existence of evil, which implies too many that God could have made things better? Leibniz suggests that these "evils" we speak of are still in accordance with the best possible conditions because God has made them as relatively good as possible. If this were not the case he says, it would point out fault in God's work, which is impossible because he is perfect. Furthermore, Leibniz argues that even supposed evil things are relatively good because God does not act without reason for his will, which must be good by nature of it being perfect (DoM 1-3).

Leibniz progresses his arguments by expressing that in, God also does nothing that is not orderly, such that it is impossible to imagine events that are not regular. Leibniz argues that, in whatever manner God created the world, it would always have been regular and in accordance with a certain order (DoM 6). With this principle of universal harmony in place, Leibniz arrives at a determinist position that goes as far to include events like miracles as simply part of the pre-determined order of things. While our own existence and the existence of other things may be subject to this order indefinitely, it is important to understand that God has his own volitions according to Leibniz and

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<sup>117</sup> Roger Ariew and Daniel Garber trans. and ed. *G.W. Leibniz: Philosophical Essays*. Indianapolis: Hackett, 1989, p.17

thus exceptions to divine maxims are possible, essentially by the hand of God. We must also consider the distinction Leibniz makes to preclude God willing evil things with respect to our previous discussion of God's goodness according to Leibniz. Importantly, he distinguishes the objects of God's general volitions (which are good and willed) from the actions of God's creatures, which are less directly connected to his will. For example, God permits seemingly bad actions not because he wills evil, but rather because it is part of the order for the bad to resolve itself such that the end is more perfect than if it had not occurred. As such, God is not willing evil by the actions of what he has created, but rather is creating greater good and perfection from the course of action therein (DoM 7)<sup>118</sup>.

Spinoza's idea of substance has brought us from the basic metaphysical constituent of the universe to God's nature and divine action. However, before moving further, it is important to understand that by using the term 'act,' Spinoza does not wish to imply that God possesses such a thing as intellect or will in the commonly understood sense. Rather, Spinoza argues that God's nature in itself causes all things, and this is similar to Leibniz's argument that good things come from the nature of God (P17, 33)<sup>119</sup>. However, if God's infinite nature is the ultimate cause of all things, how is it that a finite thing can follow from an infinite one? Spinoza ameliorates this apparent paradox by invoking modes, defined earlier as the affections of a substance that can be conceived through something else and the only thing that exists other than substance itself. Modes then, since they are not substance, can be finite and imperfect. Spinoza argues that these modes essentially modify substance in such a way that they permit the existence of finite derivatives of God's infinite attributes (P28). Interestingly, this leads Spinoza to concede to determinism as well. He argues that God has determined the way that things will act by virtue of his determining that they exist, but that finite things could not have been produced by the infinite nature of God (P29). Thus, modes modify what follows from God's nature in such a way that they become finite. As such, infinite things still follow from God's infinite nature and attributes, but modes cause their determinate existence. Spinoza even stretches this notion to the point of abolishing the possibility of contingency in nature. He argues that since God necessarily determines everything,

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<sup>118</sup> Roger Ariew and Daniel Garber trans. and ed. *G.W. Leibniz: Philosophical Essays*. Indianapolis: Hackett, 1989, p.7

<sup>119</sup> Ibid., p.33

undetermined things are not possible and it follows that contingency is not conceivable either (P29).<sup>120</sup>

The densely layered proofs of Spinoza and Leibniz both ultimately lead to a notion of a divine, predetermined order of things by way of arguing for substance. By their arguments, all things are necessarily caused by God and could not have been produced in any other way given his perfect nature and the absurdity of contingent and undetermined things. Furthermore, different universal conditions would only be possible if God's nature or action were different, which (for Spinoza) implies the absurd notion of there being a multiple infinite substance and (for Leibniz) that God was once less perfect than he is now. In sum, Spinoza's vision is a universe constituted of one causative infinite substance that necessarily exists and is transduced eternally, and whose infinite attributes are only made finite by the action of modes that create the diverse array of things that we seem perceive as distinct, finite entities. By contrast, Leibniz suggests a divine creator who acts on infinite, unique substances such that they contain complementary and proportional reflections of the universe. Taken together, the two philosophies are robust, self-contained and influential given that many efforts of modern science are grounded upon solving physical analogues of metaphysical notions proposed over two hundred years.

#### **4.2. Leibniz on Descartes Substance:**

Leibniz believes that if there are bodies, they are not essentially merely extended because they have substantial forms. He also believes there are substantial forms. In the Arnauld correspondence, at least, he believes there is a close connection between these claims. What's the connection? Realism about bodies is the obvious answer. I argue that the obvious answer is wrong; Leibniz has other, better, non-realist ways of connecting the two. These ways of doing so support agnosticism about realism and idealism and support that the Cartesian conception of mind is as faulty, and for similar reasons, as the Cartesian conception of body.

Leibniz believes DESCARTES WAS WRONG (DWW)—if there are bodies, they are not essentially merely extended. If there are bodies, they have substantial forms. He also believes THE SCHOLASTICS WERE RIGHT (SWR)—there are substantial forms. And, during the Arnauld

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<sup>120</sup> Leroy L. Loemker trans. and ed. *Philosophical Papers and Letters 2nd ed.* Dordrecht: Reidel, 1969, p.29

correspondence, at least, he believes that there is a close connection between these two theses.<sup>1</sup> Why would Leibniz think there is this close connection? An obvious answer: he believes there are bodies and, together with DWW, that implies SWR. The obvious answer, then, has a significant consequence for the interpretation of Leibniz: he is a realist about bodies. For those who think Leibniz was during the Arnauld correspondence an idealist, the obvious answer is unacceptable. If so, what did Leibniz think connected DWW and SWR?

In what follows, I make the connection in terms an idealist can accept. Along the way, I rebut two recent, excellent arguments by Samuel Levey for Leibniz's realism in the Arnauld correspondence. The upshots are as follows. The idealist-friendly interpretation is plausible and can be defended from Levey's arguments. But that interpretation is not particularly *supportive* of idealism. Agnosticism about realism and idealism is promising. The idealist-friendly way of connecting DWW and SWR is in another, more startling, way important: it implies that the Cartesian conception of minds as mere thinking things is, like the Cartesian conception of body, faulty and for similar reasons. Leibniz thought Descartes was even more wrong than he let on. First, some terminology. Let idealism be the view that there are simple substances, all to some degree mind-like, and there are no other substances. In particular, there are no bodies. By 'body' I mostly mean 'bodily substance' it will be clear from context when I don't. Let weak realism be the view that there are simple substances, all to some degree mind-like, and there are substances bodies that are united collections of such substances, and there are no other substances. Let strong realism be the view that there are simple substances, all to some degree mind-like, and there are substances bodies that are at least partly hunks of extension.

I have defined strong realism so that it leaves open whether a substance might be wholly a hunk of extension. Descartes thinks there are such substances. If Leibniz is a strong realist, he thinks only hunks of extension plus substantial forms are substances. So Leibniz rejects, what Descartes accepts, that there are some bodily substances and these substances are essentially merely extended: if a substance were essentially merely extended, it couldn't have a form. At issue in the debate about Leibniz and idealism and realism is how much else of Descartes's view Leibniz rejects: is Descartes right that there are some bodily substances? If so, is Descartes right that they are partly hunks of extension?

The realist interpretation of Leibniz holds his answers are ‘yes’ and ‘yes’. Defending this, Levey makes two arguments: first, close analysis of an important letter implies it and, second, only realism can explain the connection between DESCARTES WAS WRONG—if there are bodies, they are not essentially merely extended. If there are bodies, they have substantial forms and THE SCHOLASTICS WERE RIGHT—there are substantial forms.

I reject both arguments. Mostly, I focus on the second, but I fill some space on the first because what is wrong with it supports, I believe, what is wrong with the second. The non-realist reading of the text Levey focuses on supports a non-realist way of connecting DWW to SWR. And what is wrong with both arguments supports agnosticism about realism and idealism.

Levey argues that in an unsent draft of the 28 November/8 December 1686 letter to Arnauld, Leibniz out and asserts realism. That realism is then used, along with DWW, to get to SWR, a thesis Leibniz wouldn’t give up. What’s more, Levey believes, that route to SWR is never repudiated and is one of Leibniz’s best argument for forms. So if the realist interpretation of the draft to Arnauld is correct, then Leibniz was a realist at least during some of the Arnauld correspondence.

If Leibniz uses that realism to get to forms and never gives the route up, then that shows something about the later Leibniz, too: even then Leibniz was a realist about bodies since realism is crucial to an argument for forms. Idealism even in the late years would be a non-starter. Hence, it matters a lot if the realist reading is right. In the draft of the 28 November/8 December 1686 letter, Leibniz writes,

Once [that bodies are substances] is granted, I believe one can infer that bodily substance does not consist of extension or divisibility; for it will be conceded that two bodies set apart from one another, for instance two triangles, are not really one substance; let us now assume that they come together to make up a square, will the mere fact of their contiguity turn them into one substance? I do not think so. Now, each extended mass can be considered as composed of

two or a thousand others; there exists only an extension achieved through contiguity. Thus one will never find a body of which it may be said that it is truly one substance. (G II: 71-72/ LA: 88)<sup>121</sup>

Call the passage ‘the two triangles passage’ and the argument it contains ‘the two Triangles argument.’ Levey’s realist interpretation of the two triangles argument is:

(R1) Some bodies are substances.

(R2) Every body is essentially merely extended.

(R3) Every body is composed of two or more bodies.

(R4) Anything composed of two or more bodies is a substance only if its parts form a single substance. Therefore,

(R5) Any body is a substance only if its parts form a single substance.

(R6) The parts of anything that is essentially merely extended form a single substance only if many bodies can form a single substance in virtue of contact.

(R7) It is not the case that many bodies can form a substance in virtue of contact. Therefore,

(R8) For nothing that is essentially merely extended is it the case that its parts form a single substance. Therefore,

(R9) For no body is it the case that its parts form a single substance. Therefore,

(R10) No body is a substance. Therefore,

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<sup>121</sup> Furth, Montgomery. “Monadology,” *The Philosophical Review*, 1967, p.88

(R11) Some bodies are substances and no body is a substance. (271-272, fn. 7; I have replaced 'consists solely of extension' with 'is essentially merely extended')

(R11) is a contradiction.

The argument is valid, so at least one of its premises must be false. Leibniz rejects (R2), Levey thinks, and only (R2). The significance for realism is clear. Leibniz accepts (R1), so he accepts the controversial bit of realism, namely, that there are bodily substances.<sup>7</sup> this is remarkable. If the realist interpretation of Leibniz's argument is correct, Leibniz quite clearly asserts realism. What is more, from the first line of the two triangles passage, it is clear that Leibniz holds that if bodies are substances, they are not essentially merely extended and clear from surrounding passages that if bodies are substances, then they have a substantial form.<sup>8</sup> so from the two triangles passage, DWW follows. Finally, if the realist interpretation of the two triangles argument is right, there is no problem explaining why Leibniz thinks there is a close connection between DWW and SWR: DWW and (SL1) imply it.

#### **4.3. Substance pluralism- define and explain**

Quantitative pluralism includes all those theories which hold reality to be made up of a number of relatively independent substantial entities, each of which exists, at any rate to some extent, in its own right. Quantitative pluralism is thus sharply contrasted with those forms of singularism or absolutism which regard reality as ultimately consisting of a single individual being, of which the many and diverse elements which seem to exist in the world are no more than mere appearances, qualities, or modes, having no real existence in themselves. This contrast has sometimes been expressed by saying that whereas, according to pluralism, the multitude of entities which appear to find a place in the universe have a "substantial" existence, according to singularism their existence is merely "adjectival" as attributes or aspects of the one real being.

We may classify types of quantitative pluralism according to their doctrine regarding the substance composing the real entities which they postulate. This substance may be material, spiritual (or mental), or it may be neutral in the sense that its essential character is unknown, or, if known in part, cannot be placed definitely in any particular category.

There remains spiritual pluralism, and it is to this type of theory that the name "pluralism" is most commonly understood to apply at the present time. It is the belief that the world consists ultimately of an indefinite number of beings, essentially spiritual in character. Its origin can be traced back, albeit in a vague form, even to the obscure hylozoism of the ancients, who regarded all nature as alive and informed with a countless number of animate beings, to whose activities all her manifestations were due. But at this epoch the distinction between the physical and the mental had not begun to emerge clearly, and only when this occurred was it possible for the development of spiritual pluralism to take place.

But it was not till the coming of Leibniz (1646) that spiritual pluralism at last received definite and coherent statement, together with logical development. Leibniz started from a conception of mind directly opposed to that which had been given currency by Locke and the English empiricists. The latter regarded the mind as a passive receiver of impressions from objects external to it. But Leibniz realized that it is the essence of mind to be active. In his famous work, the *Monadology*, he elaborated the theory that reality consists of an infinite number of individual forces or agents, psychic in nature, which he termed "monads." These individual minds or spirits exhibited every degree of mental development and complexity, from that of beings even higher than man (the "angels") right down to that of psychic entities of so low an order that Leibniz described their being as a mere flash of conscious awareness. In this hierarchy of mind a complete continuity from one level of development to another was postulated.

Leibniz conceived each monad as reflecting within itself the rest of the universe from its own particular "standpoint." The perceptions of each monad were partly conditioned by its particular level of development, and constituted the appearance to it of all the other monads. But Leibniz met with great difficulty at this point. He had conceived the monads as absolutely independent reals with no ground of connection between them. But how could the appearance of beings other than itself arise in such an isolated entity as a monad, which, being "windowless" (as Leibniz put it), was impervious to external influence? Leibniz tried to solve this difficulty by his doctrine of "Pre-established Harmony," which involved the introduction of the idea of God into his system. According to this doctrine the development of the universe is the working out of a plan conceived

by God when he created the monads. Each monad contains the principle of its own development, but the course of that development is so arranged that, at any instant, the unfolding order of phenomena within each monad is an accurate representation of the rest of the universe at that instant. This may be illustrated by the analogy of a number of clocks set going by the watchmaker so as always to keep time with one another, though actually there is no connection between them.

The spiritual pluralism of Leibniz, though it continued to exert a dominant influence in Germany until the time of Kant, did not find much vogue among English-speaking philosophers until comparatively recent times. During the last years of the 19th and the early years of the present century, however, it was adopted and developed, in the reaction against crude materialism, by one or two influential thinkers, including Howison in America and the late James Ward in England. Though his system is founded on that of Leibniz, Ward introduced very considerable modifications, exposing the weaknesses of the original theory and endeavoring to eliminate them. He pointed out that pluralism has to explain away three difficulties.

These are concerned with what he calls respectively "the upper limit" and "the lower limit" of pluralism. If we are to make reality at all intelligible we must, with Leibniz, postulate continuous development of the monads. But from what did this development originate and how was it set going? We can trace it downwards to ever lower levels, but we cannot find within it the principle and the explanation of its own origin. On the other hand, whither is it tending? A mere plurality of independently developing beings cannot contain any indication of a satisfying explanation which shall harmonize, and give point to, the manifold separate developments. Thirdly, there is the old difficulty, encountered by Leibniz, as to the impossibility of interaction between the monads if these are really independent individuals. Ward comes to the conclusion that a thoroughgoing pluralism is untenable. It must be supplemented by a principle of unity which, while it does not destroy the conception of the monads as real individuals having a "substantial" and not a merely "adjectival" existence, at the same time enables us to get rid of the difficulties raised by a pure pluralism. Ward finds his unifying principle in a theistic theory, conceiving God as a supreme being transcending the world of the many and yet immanent in it. On the one hand God, as creator, originates monadic development; on the other, He stands as the supreme unity to a harmonious co-existence with whom that development is forever more nearly approaching. Moreover, as immanent in the world, He mediates the interaction between the monads.

It is impossible to enlarge here upon the metaphysical theory thus outlined. It must suffice to point out that it has many important possibilities and merits serious consideration. Moreover, it is a healthy corrective to the cruder forms of materialism, for while the latter are ultimately based on conceptions which can be shown to represent pure abstractions, spiritual pluralism starts from a fact of which each of us is certain from his own immediate experience, namely, the concrete existence of such a thing as an individual "mind," or better, perhaps, "spirit." A form of spiritual pluralism is being developed in America by the Personal Idealists; while in England Wildon Carr has propounded an interesting monadism with especial reference to the philosophical importance of Einstein's principle of relativity and its apparent implication of the reality and profound significance of the existence of individual observing minds.

#### **4.4. Theory of Monads.**

What may look like the parts absolutely simple, monads?

In fact, they have neither extension, nor figure. Indeed, the range being divisible, extended bodies are not absolutely simple: the same, the figures are divisible (can be cut, such as a triangle in half) and can characterize the complex bodies.

Similarly, monads can appear or disappear as suddenly (by creation or annihilation), for point of dissolution to fear for a single body (body only can see their complex parts to sever) or training (one part being added to another to form a whole).

No external movement comes assign a monad (again, due to their simplicity, the movement consists mostly in a change in the arrangement of parts of them). Thus, nothing can get into a monad. This leads to the idea famous "monads have no windows through which something can enter or leave it."<sup>122</sup>

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<sup>122</sup> Furth, Montgomery. "Monadology," *The Philosophical Review*, 1967, p.61-63

The monad is for the time being as something unknown, not even as a kind of empty, since it occupies a certain extent.

Leibniz will then try to give content to the monad, without contradicting its simplicity, it is perilous.

We must, first, that “monads have some qualities, otherwise it would not even beings.” It must also ensure that the compounds can be distinguished from each other.

Finally, it must also ensure that the monads can be distinguished from each other; Leibniz referring here to his principle of indiscernible, stated in his *New Essays* following the principle of sufficient reason, according to which “there has never in nature two beings are exactly like one another. ”

The monads have no parts, but they have qualities.

On the other hand, if no external movement does affect the monad is, she knows, like all created internal movements, coming from an internal principle.

Finally, it is that it is found “a plurality of conditions and reports, although there may be no parties” are the perceptions.

The Monad is soul. The simple substance that makes up the different body is the soul. Indeed, the perception cannot be explained only from the physical or mechanical body. This is the meaning of the famous passage: “By pretending there is a machine whose structure makes think, feel, have perception, we can conceive it enlarged so that we can enter it as a mill. And this granted, we will find by visiting it on the inside that parts that push one another, and never enough to explain a perception. ”<sup>123</sup>

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<sup>123</sup> Furth, Montgomery. “Monadology,” *The Philosophical Review*, 1967, p.71-77

It may also appoint such entelechies monads or souls, because they have a certain perfection, as they are themselves sources of their internal (Aristotelian entelechy is a term that refers to a being that has reached its end, so who has attained a certain perfection).

Leibniz notes the importance of memory, which is organizing perceptions, but we share with animals (such as the beaten dog who runs away when he sees the stick with which we are used to hit him).

But it is by knowledge of the eternal truths of reason and necessary that man differs from animals.

Two principles guide our reasoning are: the contradiction (indeed contrary to true) and that of sufficient reason: nothing happens without reason (or: there is a reason for everything)

Leibniz also distinguishes two types of truths: truths of reasoning and truths of fact. The former are necessary (and their opposite is impossible), while the truths of fact are contingent and their opposite is possible.

An example: If A is B and B is C, A is C: is a truth of reasoning required. However, “there is a cat in the garden” is a contingent truth is, because the cat might not be there.

The analysis is the process by which to uncover the ideas contained in the simple necessary truths, forming and melting them. Thus the theorems of mathematics can be reduced by analysis to definitions, axioms and requests.

Some of these simple ideas can neither be defined nor demonstrated, because as first principles, they are not based on anything but it is on them that everything else is based: it is the same utterances (of the type:  $A = A$ , a cat is a cat) “whose opposite contains an express contradiction”.<sup>124</sup>

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<sup>124</sup> Furth, Montgomery. “Monadology,” *The Philosophical Review*, 1967, p.92

The truths of fact, although contingent, also obey the principle of sufficient reason. But the immense variety of things in nature that the analysis could be boundless. This requires that “the last reason of things,” sufficient to explain all, is out of the infinite series of things.

This is a necessary substance, God.

So God is achieved by the principle of sufficient reason in the *Monadology* of Leibniz. The existence of God is based on this principle, “is sufficient reason for all the details, there is only one God and that God is enough.”

He is infinite, and the creatures derive their perfection of it, while they get their imperfections in their own nature.

God is the cause of all existence, but also species. Indeed, “God’s understanding is the region of eternal truths, or ideas on which they depend.” For example, if the sum of the angles of a triangle is always 180 degrees or  $2 + 2 = 4$ , it is because God willed it so, and would have otherwise.

God is a necessary and perfect essence, therefore, contains its existence. In other words, he “just be possible to be present,” “God alone has the privilege to be there, if possible.”<sup>125</sup>

The existence of God can be deduced a priori, that is to say, by simple reasoning, without having to rely on the experience, such as that of a hypothetical encounter with God. Its simple concept we can deduce its existence, “as nothing can prevent the possibility of which encloses no bounds, no negation and consequently no contradiction, this alone is enough to know that God exists a priori.” Here are reminiscent of the ontological argument formulated by St. Anselm and taken up by Descartes in the *Meditations*.

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<sup>125</sup> Furth, Montgomery. “*Monadology*,” *The Philosophical Review*, 1967, p.89

Nevertheless, one can also infer its existence a posteriori, from the experimental observation of the existence of contingent beings as are men or animals, “*they cannot have their reason being that in the necessary*”.

Act is the mark of perfection of the creatures, while suffer is the mark of their imperfection. But the monad acts as it has distinct perceptions, and suffers, as it has confused perceptions.

Monads cannot act on each other (as we have seen, they are without doors or windows), it is God who in the beginning of time has established the harmony of their relationship.

An infinity of universes are possible, but it cannot exist one. There must be a reason that explains the choice of God to this world: he chose the best possible world, because of his wisdom and goodness.

Leibniz defines a monad as a simple substance which cannot be divided into parts. A compound substance may be formed by an aggregation of monads. Thus, a compound substance may be divided into simple parts.

According to Leibniz, monads differ in quality, and no two monads are exactly alike. Each monad has its own individual identity. Each monad has its own internal principle of being. A monad may undergo change, but this change is internally determined. Changes in the properties of any monad are not externally determined by other monads.

Each monad has a plurality of properties and relations, which constitutes its perception. Each monad has its own perceptions which differ from the perceptions of other monads. Perceptual changes are constituted by the internal actions of monads. Leibniz describes three levels of monads, which may be differentiated by their modes of perception. A simple or bare monad has unconscious perception, but does not have memory. A simple or ordinary soul is a more highly developed monad, which has distinct perceptions, and which has conscious awareness and

memory. A rational soul or spirit is an even more highly developed monad, which has self-consciousness and reason (both of which constitute "apperception").

Leibniz says that necessary and eternal truths may be known by reason. A rational soul may know necessary and permanent truths, in contrast to an ordinary soul which can only connect perceptions by means of memory. A rational soul can know eternal truths about the universe and about the relation of the universe to God. A rational soul thinks of itself as limited, but thinks of God as unlimited.

Leibniz explains that reason is governed by two main principles: the principle of contradiction, and the principle of sufficient reason. According to the principle of contradiction, a proposition must be either true or false. If two propositions are contradictory to each other, then one of the propositions must be true, and the other must be false. According to the principle of sufficient reason, nothing happens without a reason. No proposition can be true without a sufficient reason for its being true and not false.

Leibniz declares that there are two kinds of truth: truths of reason, and truths of fact. Truths of reason are *a priori*, while truths of fact are *a posteriori*. Truths of reason are necessary, permanent truths. Truths of fact are contingent, empirical truths. Both kinds of truth must have a sufficient reason. Truths of reason have their sufficient reason in being opposed to the contradictoriness and logical inconsistency of propositions which deny them. Truths of fact have their sufficient reason in being more perfect than propositions which deny them.

Leibniz also claims, however, that the ultimate reason of all things must be found in a necessary and universal substance, which is God. A primary substance is not material, according to Leibniz, because matter is infinitely divisible. Every monad is produced from a primary unity, which is God. Every monad is eternal, and contributes to the unity of all the other monads in the universe.

Leibniz says that there is only one necessary substance, and that this is God. A necessary substance is one whose existence is logically necessary. The existence of a necessary substance cannot be denied without causing some form of self-contradiction. Thus, God's existence is logically

necessary. God is absolutely real, infinite, and perfect. All perfection and all reality comes from God. God, as the supreme monad, is an absolute unity.

Leibniz explains that the perfection of a monad is revealed by its activity. The imperfection of a monad is revealed by its passivity. A monad is perfect insofar as it is active, and is imperfect insofar as it is passive. Actions and reactions are reciprocal relations between monads, and are constantly changing. The actions of some monads are a sufficient reason for the reactions of other monads. The reactions of some monads are given sufficient reason by the actions of other monads. All of the actions and reactions of monads are governed by a principle of harmony, which is established by God.

Leibniz argues that, insofar as the rational soul or spirit can know eternal truths and can act according to reason, it can reflect God. The spiritual world is a moral world, which can guide the natural world. The goodness of God ensures that there is harmony between the spiritual world and the natural world, and establishes harmony between moral laws and natural laws. A perfect harmony of moral and natural law is found in the spiritual world, which Leibniz calls the City of God.

Leibniz also says that there are an infinite number of possible universes in the mind of God, but that God has chosen a single universe whose sufficient reason is that it is the best possible universe (i.e. having the highest possible degree of perfection). This claim may be disputed, however, because it may be misused as an argument for an excessive and unjustifiable form of optimism.

Leibniz argues that God is supremely perfect, and that therefore God has chosen the best possible plan for the universe. God's plan for the universe necessarily produces the greatest amount of happiness and goodness, because it reflects God's absolute perfection. But Leibniz's argument may be disputed by the opposing argument that the best of all possible worlds may not necessarily contain both good and evil. The best of all possible worlds may not necessarily contain both happiness and unhappiness. The universe may not necessarily be governed by harmony, but may be governed by disharmony. The universe may not necessarily reveal unity, but may reveal disunity.

#### **4.5. Theory of world as possible worlds.**

Leibniz's argument for the doctrine of the best of all possible worlds, now commonly called Leibnizian optimism, is presented in its fullest form in his work *Théodicée* (1710; *Theodicy*)<sup>126</sup>, which was devoted to defending the justness of God (see theodicy). The argument thus constitutes Leibniz's solution to the problem of evil, or the apparent contradiction between the assumption that God is omnipotent, omniscient, and omnibenevolent (perfectly good) and the evident fact of evil (including sin and unmerited suffering) in the world. In rough outline, the argument proceeds as follows:

1. God has the idea of infinitely many universes.
2. Only one of these universes can actually exist.
3. God's choices are subject to the *principle of sufficient reason*, that is, God has reason to choose one thing or another.
4. God is good.
5. Therefore, the universe that God chose to exist is the best of all possible worlds.

The argument can be broken down into three parts. Premises (1) and (2) say that God has a choice to make, for there are infinitely many possible worlds, and only one can be chosen. Premises (3) and (4) state that God chooses things with reason (this is the principle of sufficient reason, that is that all things that occur for sufficient reasons which fully explain them), and is good – hence, when God makes choices, God chooses that which is most good, or most perfect. Finally, the conclusion puts these two ideas, concluding that in this choice, as with all other choices, God chose that which is best, the best of all possible worlds which could have existed.

The argument is valid, for if there is are infinitely-many choices, and a good, reasonable God has made a choice of one, then that universe is the best. For, if God chose another less-good universe, then God would not be good, God would lack the idea of some universe, or God would not be reasonable, and some premises would be false. Arguably, one could claim that the argument is invalid on the grounds that its premises may yield a false conclusion if the goodness of universes

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<sup>126</sup> *Theodicy: Essays on the Goodness of God, the Freedom on Man and the Origin of Evil*. Translated by E. M. Huggard. La Salle, IL: Open Court, 1985, p.9

were identical, and that God did not choose to make any world actual. Clearly, since we know of an existing universe, the claim that none exists would be false, but it is not *logically* false and hence the argument could have weakness here. However, we will grant Leibniz the tacit assumption that “a universe exists” is a premise.

Leibniz explains that the reason for the choice of a world is in its “*fitness*, or in the degree of perfection that these worlds contain”<sup>127</sup>. Hence, the suitability for a world for selection is a function of its level of perfection, and God, being perfect, would choose that world which is most perfect.

Premise (1) follows from the notion of God. God is, by definition all-knowing – a view defended in §48 – and, hence, has the knowledge of what any configuration of the universe would be. So, if God exists, premise (1) is true. Leibniz argues that God must exist in §§44-45 with the argument that “he must exist if he is possible. And since nothing can prevent the possibility of what is without limits, without negation and consequently without contradiction” (74) then God exists. The argument can be symbolized by modal logic as

$$(\Diamond G \rightarrow \Box G),$$

$$\neg \Box \neg G \therefore G,$$

Where  $G$  means “God exists”, and is valid.

One may hope to attack premise (2) with the claim that there could be multiple worlds. For if God is a transcendent being, beyond this world, it would seem that he could create all of his possible worlds independently from one another. It may be argued that God would never create anything imperfect, as the other worlds are said to be, but imperfections exist within the actual world even if they are in order with universal harmony. It may be the case that the entire collection of worlds, including the most perfect one, is itself perfect. It is not clear why Leibniz would deny this possibility, though it should also be noted that in this case, we may extend “world” to mean the set

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<sup>127</sup> *The Labyrinth of the Continuum: Writings on the Continuum Problem, 1672–1686*. Translated and edited by Richard T. W. Arthur. New Haven, CT: Yale University Press, 2002.p.76

of all universes which God is again supreme over, and say that this set is the best of all possible worlds, which would have to be the case since it is *the* only set in existence.

Premises (3) and (4) seem less controversial. God is defined as being the “ultimate reason” in §38, and hence God is the sufficient reason for things existing. God’s goodness is explained by his perfection in §41.<sup>128</sup>

#### **4.6. Why is this Particular World Actual?**

The question has two aspects, we are asking, essentially, what is the sufficient reason for the existence of this particular world (Why does this world exist?)? However, we are also asking why does this world exist in the way that it does? We will treat these two questions together. Leibniz gives two answers to this question, one is based upon the world itself, and the other on God. First of all, this world is actual based upon the definitions of possibility, perfection and existence. Possibility, as we said above, is the principle of essence, and perfection (which is the degree of essence) is the principle of existence. Now, “all possible, that is, everything that expresses essence or possible reality, strive with equal right for existence in proportion to the amount of essence or reality or the degree of perfection they contain.” Therefore, that possible world that is made actual is the world that contains the greatest amount of perfection or degree of essence. In other words, out of all of the possible worlds realizable this world is the best possible world. We might attempt to imagine a world that is more perfect, but, according to Leibniz’s definitions, if such a world was possible this would be it.

This first answer, by itself, would leave us unsatisfied, but, the second answer guarantees that this is indeed the best of all possible worlds. The second reason, the ultimate sufficient reason, why this world is the best of all possible worlds is that God chose this world out of all the possible worlds. God’s choice, flowing from his infinite wisdom, was made by *decision rule* and based upon *the principle of fitness*. The principle of fitness concerns “the degree of perfection that these [any and all possible worlds] worlds contain.” That world is fit for existence, as we noted above, which contains within itself, and the composition of all of its parts, the greatest degree of

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<sup>128</sup> *The Labyrinth of the Continuum: Writings on the Continuum Problem, 1672–1686*. Translated and edited by Richard T. W. Arthur. New Haven, CT: Yale University Press, 2002.p.111

perfection. Now, decision rule demands that God create that world with the greatest degree of perfection, or, as Leibniz says elsewhere, that world that is “at the same time the simplest in hypotheses and the richest in phenomena.” In other words God creates that world that has the greatest amount of “agreement or identity in variety,” which contains the “greatest variety together with the greatest order,” or “which is the most appropriate,” and “best”. God, in fact, chooses to bring into existence that possible world which contains, “the most power, knowledge, happiness and goodness.” Leibniz explains, in *the Monadology*, that, through God’s wisdom He knows which possible world has the greatest degree of perfection, through His goodness He chooses to create it, and by His power He produces it. God, then, for Leibniz, is the ultimate sufficient reason for the existence of things.

Yet, is not the introduction of God, as the ultimate source of all existing things, a little gratuitous? Is there not something else that could be the ultimate sufficient reason for the existence of this universe? Something else that answers the question why the world exists and why it exists the way that it does?

Leibniz has an answer to this question as well. If God, a being that is not a part of the universe, is not the sufficient reason for the existence of this world, then what could take His place? One answer that has been given throughout the history of philosophy is: Matter. Leibniz, in the *Principles of Nature and Grace, Based on Reason*, takes this answer head on. He claims that matter (or energy, protons, neutrons or electrons), could not possibly be the ultimate cause (reason) of the existence of all things, because it is absolutely indifferent to motion or to rest. Pure matter is unable to be the ultimate sufficient reason as it itself is in need of a sufficient reason to be either in motion or at rest. Regardless of how far back we go in the spatio-temporal states of the universe, we will never find a reason, coming from matter, why things are the way they are and not otherwise. Therefore, the ultimate sufficient reason for the why there is something rather than nothing cannot possibly be matter.

We could always just avoid the problem by saying that the universe is eternal. That is, regardless of how far back you go, you will never actually reach a beginning of the universe. There is a constant flow of spatio-temporal, contingent, states of the universe. Leibniz addresses this issue in much the same way that he addresses the question of matter. He says that this answer, positing an infinite regress of finite, or contingent, beings, or spatio-temporal states, still does not give us an

ultimate sufficient reason for the existence of this world. Why is this? First of all, the reason for an unchanging thing (a persisting thing) is its own nature or essence. However, the reason for a contingent thing (or even an infinite series of contingent things) is “the superior strength of certain inclinations”, that is, the strength of its striving for existence. But its striving for existence does not give it existence as it is still only possible until it receives existence. Therefore, the ultimate sufficient reason for the existence of the universe, the compilation of contingent essences, cannot be found in any one contingent essence, nor in the total compilation of contingent essences. Therefore, concludes Leibniz, the ultimate sufficient reason for the existence of the universe must depend upon something which is: not contingent, nor part of the contingent universe. Such a being, would, according to Leibniz, would exist by its very essence, that is to say, it would be “an entity whose essence is existence.”<sup>129</sup>

These two arguments, which sound very much like the cosmological argument for the existence of God, are used in Leibniz to provide us with that necessary being that is capable of choosing, and producing, the most perfect world. If these arguments are sound and valid, then Leibniz has proved that this is the best possible world that could be created. The question remains, why are there possible things that don't exist?

#### **4.7. Why are there Possible Things that don't exist?**

In his letters to Des Bosses, Leibniz can be quoted as saying that “there is a reason why not every possible thing exists.” Furthermore, we know, based upon the principle of sufficient reason, that there must be a sufficient reason for every state of affairs. Leibniz might have attempted to argue to that seeing as possible things that will never be created are not actual, they are, therefore, not a state of affairs. However, due to the fact that he puts all possibilities, all possible worlds in the ideas of God, he tends to say that they exist, as ideas or notions, in God's mind. Therefore, he needs to explain how it is possible for there to be possible things in God's mind which are not made actual. To some, such a question might not seem important, for example, does it really matter that the possibility that I drink two cups of coffee this morning did not come to be? Do I really care why that possible state of affairs does not exist? Put that way, it does sound like a trivial question. However, this question, which will lead us into the problem of suffering, could

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<sup>129</sup> *The Labyrinth of the Continuum: Writings on the Continuum Problem, 1672–1686*. Translated and edited by Richard T. W. Arthur. New Haven, CT: Yale University Press, 2002. p.19-22

be worded differently. Why did that state of affairs in which the twin towers were not destroyed, which was certainly possible, not come to pass? They were destroyed, but, it was possible that the terrorists never exist, or that they get caught. Why did the state of affairs, in which a woman is not raped, not exist? Why did the state of affairs in which my grandfather did not get brain cancer, which was entirely possible, not exist? Put this way, this question takes on a whole new meaning.

He answers question in the short article *On Freedom and Possibility*. Leibniz's answer is based upon all of the principles that we have already seen. He claims that if X is possible in its nature, but does not exist, or come to pass, it is because it is, or was, "incompatible with other things that include more perfection, that is, with other things that include more reality," which exist already, have existed, or will exist. Though it was, or is, physically (or hypothetically) possible that X happen, or receive existence, due to the other parts of this actual world, its non-existence is physically, though not metaphysically, necessary. This answer does not seem satisfying to those who have experienced great suffering. This leads us on to our final section in which we will look at how Leibniz answers the problem of evil, based upon the principles of possible worlds.

#### **4.8. Possible Worlds and the Problem of Evil**

The question that we just finished answering, in Leibniz's terms, brings us to the problem of evil, or, as mentioned in the introduction, the problem of suffering. The problem, as Franklin Perkins notes, "is not just that we suffer more than necessary but also that the suffering is not fairly distributed." As I said above, the problem of suffering is that it seems that if there is a God that is all-knowing, omnibenevolent, and all-powerful (at least these three attributes together), then it seems that God should actualize that world in which there is the least amount of suffering. However there is all too much suffering in this world, in fact, we can all imagine a world in which there is at least one less murder or rape victim. If God was such as described above, then He would have created that world, instead. Therefore there cannot possibly be a God, at least as described

above. At best, if there is a God, in order to create such a world as this, He couldn't possibly be either all-knowing or omnibenevolent or all-powerful, or all three. This is the problem of evil.<sup>130</sup>

There are many different philosophers who have attempted to answer this problem, but in this section we will look at Leibniz's answer to the problem of evil, based upon the principles that we saw above. According to Leibniz, as we saw above, God, through his omniscience and divine wisdom knew which, of the infinity of possible worlds, the best was. Through his goodness God willed to create the best possible world, and through His supreme power He produced the best possible world. This possible world includes all the finite creatures that are found in its idea. Each of these creatures, in each possible world, has a complete idea in the mind of God which includes its entire spatio-temporal possible existence, including, for rational creatures their thoughts and actions. God, knowing all possible worlds, with all possible creatures and all their possible actions, knows which of those possible worlds is the best, and declares that this world exist. From that point on, he simply keeps it in existence preserving the being of each thing in it. For God to interfere significantly unless His divine action in contingent affairs is a part of the best possible world with the being of any one contingent thing would, essentially, be to choose an entirely different world which would contain less perfection than the best possible world.

Therefore, God preserves each being (animate or inanimate), each action or event, guaranteeing that they each accomplish or live out their complete idea. This means that, according to Leibniz, and based upon his principles and definitions, and especially based upon his theory of possible worlds, we are living in the best possible world. Not one evil event or act could be removed without making the world less perfect, because that which exists is based upon the total perfection of the world in question.

Though this answers the problem of evil, on a large scale, it doesn't answer the problem of evil on a small scale. In other words, it begs the question, which Leibniz asks and immediately answers, "Why is it that this man will assuredly commit this sin? The reply is easy: otherwise he would not be this man." We might add to his answer, based on the above principles, that, otherwise this would

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<sup>130</sup> Antognazza, Maria Rosa, 2008. *Leibniz on the Trinity and the Incarnation: Reason and Revelation in the Seventeenth Century*, Gerald Parks (trans.), New Haven: Yale University Press, p.18

not be the greatest, best, most perfect, possible world, because, each individual part of this world includes within its complete idea the entire possible world.

We could be even more specific, as Leibniz was, “Why does such a Judas, the traitor, [insert anybody here, Hitler, Statesman Mao, the man who raped that girl, Bundy] who is merely possible in God’s idea, actually exist?” He had to exist because he was part of the most perfect, best, possible world realizable. Leibniz says, “Since God found it good that he should exist, despite the sin that God foresaw, it must be that this sin is paid back with interest in the universe, that God will derive a greater good from it, and that it will be found that, in sum, the sequence of things in which the existence of the sinner is included is the most perfect among all the possible sequences. But we cannot always explain the admirable economy of this choice while we are travelers in this world; it is enough to know it without understanding it.” Leibniz’s response is that, though we only consider the contingent act of that person, or this contingent evil, God considers the entire series of contingent things, persons, and acts, in the spatio-temporal universe and this particular moment, that we have in mind (evil as it is), is physically necessary.

One final question, why must evil, or suffering exist at all? First of all, Leibniz notes that, technically, evil is a necessary fact for created being. He gives many examples of what he means,

“Indeed, the most distinguished masters of composition quite often mix dissonances with consonances in order to arouse the listener, and pierce him, as it were, so that, anxious about what is to happen, the listener might feel all the more pleasure when order is soon restored, just as we delight in small dangers or in the experience of misfortune for the very feeling or manifestation they provide of our power or happiness, or just as we delight in the spectacle of ropewalkers or sword dancing for their very ability to incite fear, or just as we ourselves laughingly half toss children, as if we are about to throw them off...On that same principle it is insipid to always eat sweet things; sharp, acidic, and even bitter tastes should be mixed in to stimulate the palate. He who hasn’t tasted bitter things hasn’t earned sweet things, nor, indeed, will he appreciate them. Pleasure does not derive from uniformity, for uniformity brings forth disgust and makes us dull, not happy: this very principle is a law of delight.”<sup>131</sup>

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<sup>131</sup> Frankfurt, Harry G. (Ed.). *Leibniz: A Collection of Critical Essays*, New York: Doubleday. 1972, p.221

We might add that pain is often necessary for good things, for example, a toothache alerts us to a cavity, and repairing the cavity, a good, can be painful. Getting in good shape, physically, is painful. Most of the good things of life cannot be appreciated properly without a prior pain or suffering.

This, of course does not answer the question we asked, but it is part of the answer. The reason why evil and suffering exists has to do with the fact that we are limited creatures. “The cause of evil derives from the original limitation of creatures, before all sin.” In the Dialogue on Human Freedom Leibniz takes this question head on. He says that the cause of evil is, in a sense, nothingness. This is so because, “evil is a defect, that is a privation or negation, and consequently, it arises from nothingness or nonbeing.” This limitation, which is part of our nature, is inevitable. It is part of the definition of a created, contingent, being. To be created is to be limited. This limitation is the ultimate source of evil in the universe: limitations in inanimate things, limitations in animals, and limitations in human beings. Due to our limited knowledge, power, wisdom and goodness, human beings can cause evil, hurting and killing others. God could not have created any possible world in which there was no evil, because evil is by definition a negation of being, and all created things are imperfect. Therefore, for contingent, created, beings, evil is a necessity. Without evil there would be no creation.

Leibniz’s answer to the problem of evil, though it may not satisfy that person who is suffering at this moment, does seem, if we accept his principles and definitions, to be true. This personal problem of evil (why did this happen to me?) is not a problem that a philosopher should address, even if, philosophically speaking his answer is true. The personal problem of evil needs a comforting friend, counselor, psychologist or pastor.

#### **4.9. Conclusion**

The primary purpose of this discussion was to expose Leibniz’s doctrine of possible worlds, and to show the coherence of his claim that this is the best possible world. In the process we showed how Leibniz answered, with the theory of possible worlds, the problem of evil. Possibility, as the principle of essence, is found in the mind of God, and God knows all possible worlds and all the parts of all possible worlds. We, however, only know what might be possible based upon what is actual. We only have *a posteriori* knowledge of possibilities. As such it is difficult for us to accept Leibniz’s claim that this is the best of all possible worlds. However, as, I hope, I have made clear,

Leibniz's system is, if we accept his definitions and the principle of sufficient reason, eminently coherent. I would argue, in fact, that the entire problem of evil, hinges, not on the claim that God, as an all-knowing, omnibenevolent, all-powerful being, could not have made a world with evil, but rather, on the principle of sufficient reason, and the definitions that Leibniz gives to the terms perfection, existence and essence. Without these definitions, and the principle of sufficient reason there is absolutely no reason to think that God could not create a world in which there is evil. The notion of such a God and the notion of evil are not contradictory terms. However, though Leibniz's problem of evil was caused by his own terms and principles, he dealt with the problem in a coherent and rational way. Though we may not like his answer, unless we take exception to his definitions or principles we cannot reject it.

We began by explaining the terms, and principles, that Leibniz uses in the doctrine of possible worlds. We then used these terms to explain the doctrine of possible worlds and why Leibniz claims that this is the best of all possible worlds. This is, according to Leibniz, the best of all possible worlds because only perfection is the foundation of existence, and because God, who is all knowing chose that possible world that would exhibit the most perfection. We finished by exposing Leibniz's solution to the problem of evil. Evil is a necessary fact of life that, rather than demonstrate that God (as normally described in Christian literature) could not possibly exist, is a result of creation. God didn't have to create anything, but, by the fact that He did, he allowed for the existence of suffering.

#### **4.10. Concept of Space and time.**

Since we experience the actual world as full of physical objects, Leibniz provided a detailed account of the nature of bodies. As Descartes had correctly noted, the essence of matter is that it is spatially extended. But since every extended thing, no matter how small, is in principle divisible into even smaller parts, it is apparent that all material objects are compound beings made up of simple elements. But from this Leibniz concluded that the ultimate constituents of the world must be simple, indivisible, and therefore unextended, particles dimensionless mathematical points. So

the entire world of extended matter is in reality constructed from simple immaterial substances, monads, or entelechies.<sup>132</sup>

In fact, Leibniz held that neither space nor time is a fundamental feature of reality. Of course individual substances stand in spatial relation to each other, but relations of this sort are reducible in logic to the non-relational features of windowless monads. In exactly the same way, temporal relations can be logically analyzed as the timeless properties of individual monads. Space and time are unreal, but references to spatial location and temporal duration provide a convenient shorthand for keeping track of the relations among the consistent set of monads which is the actual world.

What is at work here again is Leibniz's notion of complete individual substances, each of which mirrors every other. A monad not only contains all of its own past, present, and future features but also, by virtue of a complex web of spatio-temporal references, some representation of every other monad, each of which in turn contains ?<sup>133</sup>

In a universe of windowless mirrors, each reflects any other, along with its reflections of every other, and so on ad infinitum. It is for this reason that an infinite analysis would be required to reveal the otherwise implicit identity at the heart of every truth of fact. In order fully to understand the simple fact that my eyes are brown, one would have to consider the eye-color of all of my ancestors, the anatomical structure of the iris, my personal ophthalmological history, the culturally-defined concept of color, the poetical associations of dark eyes, etc.; the slightest difference in any one of these things would undermine the truth of this matter of fact. Existential assertions presuppose the reality of just this one among all possible worlds as the actual world.

Leibniz's positive account of space and time might be thought of as resting on two primary pillars and being filled out by a number of ancillary theses. The first pillar consists in an alternative model, or conception, of space and time offered in conscious opposition to the Newtonian conception of absolute space and time. According to Leibniz, space and time are not so much *things* in which

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<sup>132</sup> Arthur, Richard. "Leibniz's Theory of Time," in Okruhlik and Brown (eds.), *The Natural Philosophy of Leibniz*, 1985, p.223

<sup>133</sup> Ibid., p.221

bodies are located and move as systems of *relations* holding between things. He thus famously tells Clarke in his Third Paper:

As for my own opinion, I have said more than once, that I hold space to be something merely relative, as time is, that I hold it to be an order of coexistences, as time is an order of successions. (Third Paper, paragraph 4; G VII.363/Alexander 25–26)<sup>134</sup>

The main idea is perhaps illustrated more intuitively by a helpful example that Leibniz introduces in his Fifth Paper. There he suggests that space and time are analogous to a family tree. Unlike the relationship between, say, a mighty oak and its leaves, a genealogical tree is not something which exists as a thing independently of, and prior to, its members, but is itself rather something like an abstract system of relations holding between brothers, sisters, parents, children, aunts, uncles, etc. Analogously for Leibniz, space and time are not to be thought of as containers in which bodies are literally located and through which they move, but rather as an abstract structure of relations in which actual (and even possible) bodies might be embedded.

The second pillar of Leibniz's positive account of space and time is rooted in his view that even understood as systems of relations space and time as “beings of reason” are in a sense at least two steps removed from the monads of his mature metaphysics. (i) Although bodies may be held to stand in spatial and temporal relations to one another, Leibniz claims, space and time themselves must be considered abstractions or idealizations with respect to those relations. For while relations between bodies and events are necessarily variable and changing, the relations constituting space and time must be viewed as determinate, fixed, and ideal. (ii) As we have briefly noted, however, according to Leibniz's most mature metaphysics, physical bodies and events are themselves to be understood as merely well-founded phenomena. Relations of relative distance and duration holding between bodies must therefore themselves be a step removed from monadic reality, and thus space and time must be, as it were, a second step removed from the most basic non-relational entities of Leibniz's most mature metaphysics. In spite of this double relation holding between ideal space and time on the one hand and monadic reality on the other, Leibniz nonetheless insists that ideal space must be intelligibly related to the various perceptions by which monads represent the world, each from its own “point of view,” just as ideal time must be intelligibly related to the

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<sup>134</sup> Arthur, Richard. “Leibniz's Theory of Time,” in Okruhlik and Brown (eds.), *The Natural Philosophy of Leibniz*, 1985, p.127

various appetites in accordance with which monads sequentially unfold in synchronized harmony. Although the details of this intelligible grounding story remain less than perspicuous, there can be no doubt that Leibniz saw his rationalism about space and time as dovetailing with the foundations of his monadic metaphysics.

Beyond arguing that space and time are ideal systems of relations, Leibniz also defends a number of less central theses that help to flesh out his positive conceptions of space and time. For our purposes it might be worth quickly calling attention to three of the most significant. First, although he takes space and time to be ideal systems of relations, Leibniz nonetheless insists that they are conceived of as infinite. In doing so he takes a characteristically intermediate position, partially siding with most early moderns in rejecting the notion of an imaginary space surrounding a finite cosmos, but also partially siding with earlier medieval thinkers in affirming that “Since space is itself an ideal thing ... space out of the world must needs be imaginary [but] ... The case is the same with empty space within the world; which I also take to be imaginary” (Fifth Paper, paragraph 33; G VII.396/Alexander 64).<sup>135</sup>

Second, Leibniz maintains that although the existence of empty space is possible logically speaking, two bodies could exist at a spatial distance with nothing between them nonetheless it is morally certain that the actual world is a plenum. For, as we have already noted in connection with his critique of atomism, Leibniz maintains the existence of empty space would be inconsistent with God's decision to create the best of all possible worlds. Third, in spite of his critique of Newton, Leibniz affirms that space and time are continuous, homogenous, and infinitely divisible (although not actually divided to infinity). He holds that the ascription of such properties to space and time is only possible once they are recognized to be ideal, or “imaginary,” and in this way Leibnizian space and time are further distinguished not only from Newtonian absolute space and time, but also from extended Leibnizian bodies.

In his *Principia*, Newton had suggested that the absolute motion of bodies is to be defined relative to absolute space and time, and to be discovered by its properties, causes and effects. Leibniz, as we have just seen, opposed such a view, holding instead that true motions are to be defined with respect to the active forces that he took to be inherent in truly moving bodies. This disagreement

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<sup>135</sup> Arthur, Richard. “Leibniz's Theory of Time,” in Okruhlik and Brown (eds.), *The Natural Philosophy of Leibniz*, 1985, p.234

between Newton and Leibniz over the nature of true motion surfaced more explicitly in their disagreement over the nature of space and time in the Leibniz-Clarke correspondence. In the five letters he managed to write before his death, Leibniz succeeded in articulating not only his reasons for opposing what he took to be Newton's conception of absolute space and time, but also sketching an alternative picture according to which they are to be understood as abstract systems of relations.

#### **4.10. Against Absolute Space and Time**

In his correspondence with Leibniz, Clarke defends what has become known as an absolute theory of space and time. The version championed by Clarke on Newton's behalf might briefly be characterized for our purposes as having four central theses. First, space and time are logically and metaphysically prior to physical bodies and events. That is to say, although space and time could exist even if there were no physical bodies or events, the existence of things like planets and flashes could not exist without space and time. Second, physical bodies and events exist *within* space and time the beach ball is collocated with a region of space equal to its volume; the explosion endures through a determinate measure of absolute time. Third, although we may distinguish regions, or “parts,” of space and time, neither space nor time strictly speaking are divisible since no region of space or time could be separated, or “pulled apart,” from any other region. Fourth, ontologically speaking, space and time may be identified with attributes of God: infinite space just is the attribute of God's *Immensity*, while infinite time just is the attribute of God's *Eternity*.

Leibniz introduces three main lines of attack against the Clarke-Newton conception of absolute space and time. The first line focuses on the suggestion that space and time might be identified with the divine attributes, and on Newton's claim made in his *Optics* that space is, as it were, the *sensorium* of God. Leibniz, at root, argues that such claims are deeply misleading at best, heretical at worst. Thus, for example, against the suggestion that space might be identified with God's *Immensity*, he writes to Clarke, “If space is a property of God ... space belongs to the essence of God. But space has parts: therefore there would be parts in the essence of God” (Fifth Paper, paragraph 43; G VII.399/Alexander 68).<sup>136</sup>

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<sup>136</sup> Arthur, Richard. “Leibniz's Theory of Time,” in Okruhlik and Brown (eds.), *The Natural Philosophy of Leibniz*, 1985, p.124

Likewise, he argues that if time were identified with God's *Immensity*, then we would have to say that since things are in time, they are in God's *Immensity*, and thus in God's essence, "Strange expressions; which plainly show, that the author [i.e. Clarke] makes a wrong use of terms" (Fifth Paper, paragraph 44; G VII.399/Alexander 68).<sup>137</sup>

Finally, from his first letter on, Leibniz seizes on what he takes to be the impious implication of Newton's suggestion that space might in some sense be considered the seat of divine perception or cognition, writing, "Sir Isaac Newton says, that space is an organ, which God makes use of to perceive things by. But if God stands in need of any organ to perceive things by, it will follow, that they do not depend altogether upon him, nor were produced by him" (First Paper, paragraph 3; G VII.352/Alexander 11).<sup>138</sup>

A second, more philosophical, line of attack pivots on Leibniz's commitment to the *Principle of Sufficient Reason* (PSR). In the present context we can understand PSR as demanding that there be some reason for God's creating the world in one way rather than another since "A mere will without any motive, is a fiction, not only contrary to God's perfection, but also chimerical and contradictory" (Fourth Paper, paragraph 2; G VII.371–2/Alexander 36).<sup>139</sup>

Leibniz argues that if the PSR is granted, the apparent possibility of absolute space and time can be undermined. For, on the supposition that God creates the world in an infinite, homogeneous, absolute space, there could be no reason for his creating the world oriented in one way with respect to that space rather than another way that is, there could be no reason to prefer the world situated in one way rather than, say, rotated in space by ninety degrees. Since the supposition of absolute space thus leads to a violation of the PSR, the supposition itself must be rejected as chimerical or confused according to Leibniz. Similarly, on the supposition that God creates the world in an infinite, homogeneous, absolute time, there could be no reason for God's creating the world at one time rather than at another time. Again, since the supposition leads to a violation of the PSR, Leibniz maintains that the supposition itself must be rejected as chimerical or confused.

A third line of attack offered by Leibniz against the Newtonian conception of space and time draws on another principle familiar from Leibniz's metaphysics, namely, the *Principle of the Identity of*

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<sup>137</sup> Ibid., p.136

<sup>138</sup> Ibid., p.138

<sup>139</sup> Ibid., p.139

*Indiscernibles* (PII). In the present context we may understand the PII as ruling out the possibility of two things being distinct, but not distinct in virtue of some discernible property. It thus suggests that where we cannot identify a recognizable difference between two things or possibilities, those two are in fact only one that is, as Leibniz puts it, that “To suppose two things indiscernible, is to suppose the same thing under two names” (Fourth Paper, paragraph 6; G VII.372/Alexander 37).<sup>140</sup>

Armed with the PII, Leibniz argues once again that the apparent possibility of absolute space and time can be undermined. For on the supposition of absolute space, the world oriented in one way with respect to space would have to be a distinct possibility from the world oriented in another way with respect to absolute space. But, according to Leibniz, two such purported possibilities would be indiscernible since no being not even God or an angel could recognize any difference between them. Leibniz thus concludes that since the supposition of absolute space leads to a violation of the PII, the supposition itself must be rejected. By essentially the same reasoning, Leibniz argues similarly that the apparent possibility of absolute time is also inconsistent with the PII and so too must be rejected as chimerical or confused.

Leibniz's Law is a bi-conditional that claims the following: Necessarily, for anything, *x*, and anything, *y*, *x* is identical to *y* **if and only if** for any property *x* has, *y* has, *and* for any property *y* has, *x* has. Because this is a *bi*-conditional, it is comprised of two conditional statements (i) and (ii):

- (i) **If** *x* is identical to *y*, **then** for any property *x* has, *y* has and for any property *y* has, *x* has.
- (ii) **If** for any property *x* has, *y* has, and for any property *y* has, *x* has, **then** *x* is identical to *y*.

#### **4.12. The Indiscernibility of Identicals**

The Indiscernibility of Identicals because it claims that self-identical object(s) must be indiscernible from themselves. It is a fairly uncontroversial thesis. I say "fairly" because there *are* philosophers who deny this claim. And, time permitting, we will be discussing them at some point in the semester.

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<sup>140</sup> Arthur, Richard. "Leibniz's Theory of Time," in Okruhlik and Brown (eds.), *The Natural Philosophy of Leibniz*, 1985, p.147

Almost everyone else, however, will grant that if something, *x*, is identical with something, *y*, then *x* and *y* have all of the same properties; *x* and *y* are just *one* thing, after all, merely called by two different names "*x*" and "*y*." If Superman is identical to Clark Kent, then Superman wears glasses and Clark Kent has x-ray vision (because Clark Kent wears glasses and Superman has x-ray vision). Since Superman is identical to Clark Kent, there is no property that Superman has that Clark Kent does not have, and there is no property that Clark Kent has that Superman doesn't; "they" are just one guy, after all, not two.

Notice that another way to put the Indiscernibility of Identicals is in terms of *qualitative* and *numerical* (or *quantitative*) identity. We could state the Indiscernibility of Identicals as: If *x* and *y* are numerically identical, then *x* and *y* are qualitatively identical.<sup>141</sup>

#### **4.13. The Identity of Indiscernibles**

The Identity of Indiscernibles because it claims that indiscernible objects must be identical. This thesis has raised quite a bit of debate among metaphysicians. You might think it is intuitive because of its practical applications: it seems that we *do* in fact use this principle when we are trying to determine whether we've got one thing in front of us or two. Suppose we are trying to figure out whether Superman is identical to Clark Kent. We begin: "Well, Superman is 6ft tall, and Clark Kent is 6 ft. tall; Superman has dark hair and dark eyes, and Clark Kent has dark hair and dark eyes; Superman can't get injured by fire and--look!--Clark Kent can't get injured by fire, either!" etc. If a certain identity claim such as 'Clark Kent = Superman' is not known, then tallying all of the properties that "each" has and seeing if there is a property that one has that "the other" doesn't, will aid us in determining whether Clark Kent is in fact identical to or distinct from Superman.

We might also think that the Identity of Indiscernibles is true because if there are in fact two, distinct things, then there must be *something*--some property or feature or other--that *makes* these two things different. It is explanatorily useful, in other words, to claim that two distinct objects *are* two distinct objects *because* they have at least one property that *makes* them distinct. To put it another way: if the Identity of Indiscernibles were false, then that would mean that we could have numerous *qualitatively* identical things, but no way to determine whether such 'things' are one or

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<sup>141</sup> Roger Ariew and Daniel Garber trans. and ed. *G.W. Leibniz: Philosophical Essays*. Indianapolis: Hackett, 1989, p.182

many. Indeed, if distinct objects can have every property in common, then there would be no way to determine whether we have 100 qualitatively identical things in front of us, or ten qualitatively identical things in front of us, or just two, or one, or what. We would just have to stipulate that there are two as opposed to ten or a hundred qualitatively identical things, since, by stipulation, there is no *quality* or feature that these things have that would *explain* the difference between two or ten or a hundred qualitatively identical things.

Similar to the Indiscernibility of Identicals, notice that another way to put the Identity of Indiscernibles is in terms of qualitative and numerical identity: If *x* and *y* are qualitatively identical, then *x* and *y* are numerically identical.

#### **4.14. Trouble for the Identity of Indiscernibles**

As intuitive as the Identity of Indiscernibles may seem, there are a host of purported counterexamples. Most famously is Max Black's "The Identity of Indiscernible"<sup>142</sup>

Roughly, the idea is this: Imagine a possible world that contains just two perfectly round symmetrical spheres. The spheres have the same diameter, they are an equal distance from each other, they are the only inhabitants of a completely symmetrical universe, they are both made of solid iron, etc. Intuitively, such spheres in such a world would have all and only the same properties; they are *qualitatively* identical.

Yet, by stipulation, there is supposedly *two* of these spheres, not one. But if "they" are qualitatively identical, then by the Identity of Indiscernibles, "they" are numerically identical; "they" are *one*, not *two*. Thus, either (i) there cannot be a world where there are two qualitatively identical objects or else (ii) the Identity of Indiscernibles is false. Since it seems that we *can* imagine a world with two numerically distinct yet qualitatively identical objects, then (by disjunctive elimination) the Identity of Indiscernibles must be false.

#### **Response #1**

Perhaps, you think, there *is* a way to distinguish between the two spheres. One of the spheres, for example, might have the property "being identical to sphere *a*" or "being distinct from sphere *b*"

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<sup>142</sup> Woolhouse, R. *Gottfried Wilhelm Leibniz: Critical Assessments* (Volume 2), London and New York: Routledge, 1994, p.88

or "being *this* sphere and not *that* one," etc. The idea would be that there is something special about individual objects--something that makes one object distinct from another, independent of any quality, property, or feature. Such a move would appeal to individual essences or "this nesses" or haecceities'. And such a move *would* block the counterexample, but at the cost of inviting even more problems.<sup>143</sup>

**Problem 1:** Suppose you are a materialist, you believe that there is only physical stuff in the universe. Or, even weaker, suppose that you are a materialist only when it comes to material objects such as rocks and trees and spheres and the like (you are agnostic or a dualist when it comes to people, say). What are you to make of haecceities? If we take away material bits of a (merely) material object like a sphere--if we remove one metallic bit of it one by one, and one at a time when do we get to the haecceity? *Where* is the haecceity? Is it one of the material bits we remove? It couldn't be, because no one material bit of an object seems essential to the object (we could remove any one material bit from a material object, and that object will still exist). In this way, a commitment to haecceities is skirting dangerously close to a sort of dualism for objects, which might rub more conservative ontologists the wrong way.

**Problem 2:** If you endorse individual essences or haecceities then you seemingly save the Identity of Indiscernibles, but you have to ultimately bite the bullet and admit that it is impossible for there to be a world with two qualitatively identical spheres. Because, ultimately, two spheres that are *seemingly* qualitatively identical are not *entirely* qualitatively identical--they differ in their haecceities. You might want to insist that haecceities are not strictly speaking qualities or properties, since they can only be had by one individual, and are not repeatable, like redness, and roundness, and bumpiness are. But, intuitively, if you posit individual haecceities, then there *is* something that makes the difference between two otherwise qualitatively identical objects. If haecceities are (by stipulation) a difference-making feature, then they are a feature, period. And so you do *not* think that there can be a world with two *completely* qualitatively identical spheres (haecceities included). So you will have to explain why it is that it certainly *seems* as if we can imagine such a world.

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<sup>143</sup> Woolhouse, R. *Gottfried Wilhelm Leibniz: Critical Assessments* (Volume 2), London and New York: Routledge, 1994, p.112

**Problem 3:** Imagine a world with just one sphere. According to the haecceitist, there is just one haecceity or thisness or individual essence. Now imagine that the sphere morphs like an amoeba and splits itself in half. Each half now morphs into a small sphere, each seemingly qualitatively like the other. No new material is made; no old material disappears. The original sphere is simply changing shape and reforming itself out of the material that was already in the universe. Now we have a world that seemingly has *two* qualitatively identical spheres. According to the haecceitist, there must now be *two* haecceities (since distinct individuals are (at the very least) *made* distinct by their distinct haecceities).<sup>144</sup> But where did the second haecceity come from? By stipulation, the world began with just one! A haecceitist may bite the bullet and say that there was always two, but this seems unmotivated. Consider the counterfactual case: if the sphere had never morphed, then there would not be a need to posit two haecceities. Does the world just 'know' ahead of time whether objects in it will morph or not, and then supplies the appropriate number of haecceities? *That* would be wildly ad hoc and implausible. Moreover, anything we can do with a case of fission, we can work in reverse to cases of fusion. If we begin with two distinct spheres that fuse into one, then does the resulting, singular object have one haecceity or two? If one, then where did the other one go? If two, then how can we say there is only *one* object as a result of the fusion?

Besides, imagine that after the sphere fissions into two spheres, each sphere fissions again into two, making four (seemingly) indiscernible spheres. So now, according to the haecceitist, there are four haecceities to account for the four distinct spheres. But where did these other haecceities come from? If the haecceitist insists that there were always four, then this seems as unmotivated as saying that there were always two haecceities. And we can keep fissioning the spheres, ad infinitum, forcing the haecceitist to ultimately say that there are infinitely many haecceities in just one sphere! If we thought a commitment to just one haecceity for one sphere was ontologically burdensome, positing infinitely many is surely worse!

**Problem 4:** Positing haecceities seems ad hoc. Do we have any other reason to posit these weird, suspicious "this nesses " except to save the Identity of Indiscernibles? If the haecceitist can provide

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<sup>144</sup> Woolhouse, R. *Gottfried Wilhelm Leibniz: Critical Assessments* (Volume 2), London and New York: Routledge, 1994, p.122

no other reason for positing individual essences other than to save the Identity of Indiscernibles, we may wonder why the principle was worth saving in the first place.

**Problem 5:** Positing haecceities seems to make the Identity of Indiscernibles trivially true. This is a problem if you thought that the principle was supposed to be substantial, metaphysical thesis.

### **Response #2**

Another way we might be able to distinguish the spheres by location. However, the world was stipulated to be a symmetrical one, and the twin spheres were lonely twins--they were the only inhabitants in the entire world. So this means that we cannot specify their location relative to anything else in the universe. So, someone might suggest, the spheres are located at distinct absolute locations of space-time points.

Problem 1: our best scientific theories suggest that that the universe cannot have anything like absolute location.

Problem 2: even if such a suggestion didn't contradict the best scientific theories of the day, it would be odd to think that mere *a priori* reflection on the identity relation would yield as substantial a metaphysical (and physical!) thesis about whether space was absolute or not.

Problem 3: this response requires that we accept distinctness of space-time points as primitive. Yet if we are going to do this, why not accept distinctness of individuals as primitives as the haecceitist does? What's the real difference, in other words, between individual essences of objects and individual essences of space-time points? If we had problems with haecceities, it seems these problems would repeat themselves at the level of primitively distinct space-time points.

### **Response #3**

A third response is to claim that the counterexample was set up incorrectly. The mistake, you might claim, was in claiming that there are *two* spheres in the possible world under consideration. Claiming that there are *two* spheres already begs the questions against someone who accepts the Identity of Indiscernibles. Rather, there are not "two" qualitatively identical spheres, but just one sphere that happens to be *bi-located*--i.e., one sphere in two places at the same time.

Problem 1: This violates the following intuitive metaphysical principle: no one material object can be at two distinct places at the same time. Let us call this principle P. Accepting that objects can

be bi-located would violate P. So we might ask ourselves: which do we think is more intuitive? The Identity of Indiscernibles? Or principle P? Common sense seems to favor principle P; so the Identity of Indiscernibles should be abandoned.

Problem 2: Suppose objects *can* be bi-located, and that Max Black's supposed counterexample is merely a description of a world where one sphere is bi-located. Now imagine that someone came along and spit in the direction of one of the locations of the bi-located sphere. What happens to the sphere at the opposite location? Does it get spit on, too? How would that be? The person just spit once, in one direction. Yet if there really is just one sphere there (even if it is bi-located) then, by the Indiscernibility of Identicals, it can't have any properties dissimilar from itself. Yet now it does: *it* (in one location) was just spit upon yet *it* (in the other location) wasn't. Surely this just goes to show that there are *two* spheres in this world, not one!

## **Chapter 5**

### **A Comparative & Critical study of Descartes, Spinoza and Leibniz**

#### **5.1. Introduction.**

The dispute between rationalism and empiricism concerns the extent to which we are dependent upon sense experience in our effort to gain knowledge. Rationalists claim that there are significant ways in which our concepts and knowledge are gained independently of sense experience. Empiricists claim that sense experience is the ultimate source of all our concepts and knowledge.

Rationalists generally develop their view in two ways. First, they argue that there are cases where the content of our concepts or knowledge outstrips the information that sense experience can provide. Second, they construct accounts of how reason in some form or other provides that additional information about the world. Empiricists present complementary lines of thought. First, they develop accounts of how experience provides the information that rationalists cite, insofar as we have it in the first place. Empiricists will at times opt for skepticism as an alternative to rationalism: if experience cannot provide the concepts or knowledge the rationalists cite, then we don't have them. Second, empiricists attack the rationalists' accounts of how reason is a source of concepts or knowledge.

The dispute between rationalism and empiricism takes place within epistemology, the branch of philosophy devoted to studying nature, sources and limits of knowledge. The defining questions of epistemology include the following.

1. What is the nature of propositional knowledge, knowledge that a particular proposition about the world is true?
2. To know a proposition, we must believe it and it must be true, but something more is required, something that distinguishes knowledge from a lucky guess. Let's call this additional element 'warrant'. A good deal of philosophical work has been invested in trying to determine the nature of warrant.
3. How can we gain knowledge?
4. We can form true beliefs just by making lucky guesses. How to gain warranted beliefs is less clear. Moreover, to know the world, we must think about it, and it is unclear how we

gain the concepts we use in thought or what assurance, if any, we have that the ways in which we divide up the world using our concepts correspond to divisions that actually exist.

5. What are the limits of our knowledge?
6. Some aspects of the world may be within the limits of our thought but beyond the limits of our knowledge; faced with competing descriptions of them, we cannot know which description is true. Some aspects of the world may even be beyond the limits of our thought, so that we cannot form intelligible descriptions of them, let alone know that a particular description is true.

The disagreement between rationalists and empiricists primarily concerns the second question, regarding the sources of our concepts and knowledge. In some instances, their disagreement on this topic leads them to give conflicting responses to the other questions as well. They may disagree over the nature of warrant or about the limits of our thought and knowledge. Our focus here will be on the competing rationalist and empiricist responses to the second question.

To be a rationalist is to adopt at least one of three claims. The Intuition/Deduction thesis concerns how we become warranted in believing propositions in a particular subject area.

*The Intuition/Deduction Thesis:* Some propositions in a particular subject area, S, are knowable by us by intuition alone; still others are knowable by being deduced from intuited propositions.

Intuition is a form of rational insight. Intellectually grasping a proposition, we just “see” it to be true in such a way as to form a true, warranted belief in it. Deduction is a process in which we derive conclusions from intuited premises through valid arguments, ones in which the conclusion must be true if the premises are true. We intuit, for example, that the number three is prime and that it is greater than two. We then deduce from this knowledge that there is a prime number greater than two. Intuition and deduction thus provide us with knowledge *a priori*, which is to say knowledge gained independently of sense experience.

We can generate different versions of the Intuition/Deduction thesis by substituting different subject areas for the variable ‘S’. Some rationalists take mathematics to be knowable by intuition and deduction. Some place ethical truths in this category. Some include metaphysical claims, such as that God exists, we have free will, and our mind and body are distinct substances. The more propositions rationalists include within the range of intuition and deduction, and the more

controversial the truth of those propositions or the claims to know them, the more radical their rationalism.

Rationalists also vary the strength of their view by adjusting their understanding of warrant. Some take warranted beliefs to be beyond even the slightest doubt and claim that intuition and deduction provide beliefs of this high epistemic status. Others interpret warrant more conservatively, say as belief beyond a reasonable doubt, and claim that intuition and deduction provide beliefs of that caliber. Still another dimension of rationalism depends on how its proponents understand the connection between intuition, on the one hand, and truth, on the other. Some take intuition to be infallible, claiming that whatever we intuit must be true. Others allow for the possibility of false intuited propositions.

The second thesis associated with rationalism is the Innate Knowledge thesis.

*The Innate Knowledge Thesis:* We have knowledge of some truths in a particular subject area, S, as part of our rational nature.

Like the Intuition/Deduction thesis, the Innate Knowledge thesis asserts the existence of knowledge gained *a priori*, independently of experience. The difference between them rests in the accompanying understanding of how this *a priori* knowledge is gained. The Intuition/Deduction thesis cites intuition and subsequent deductive reasoning. The Innate Knowledge thesis offers our rational nature. Our innate knowledge is not learned through either sense experience or intuition and deduction. It is just part of our nature. Experiences may trigger a process by which we bring this knowledge to consciousness, but the experiences do not provide us with the knowledge itself. It has in some way been with us all along. According to some rationalists, we gained knowledge in an earlier existence. According to others, God provided us with it at creation. Still others say it is part of our nature through natural selection.

We get different versions of the Innate Knowledge thesis by substituting different subject areas for the variable 'S'. Once again, the more subjects included within the range of the thesis or the more controversial the claim to have knowledge in them, the more radical the form of rationalism. Stronger and weaker understandings of warrant yield stronger and weaker versions of the thesis as well.

The third important thesis of rationalism is the Innate Concept thesis.

*The Innate Concept Thesis:* We have some of the concepts we employ in a particular subject area, S, as part of our rational nature.

According to the Innate Concept thesis, some of our concepts are not gained from experience. They are part of our rational nature in such a way that, while sense experiences may trigger a process by which they are brought to consciousness, experience does not provide the concepts or determine the information they contain. Some claim that the Innate Concept thesis is entailed by the Innate Knowledge Thesis; a particular instance of knowledge can only be innate if the concepts that are contained in the known proposition are also innate.<sup>145</sup>

Others, such as Carruthers, argue against this connection (1992, pp. 53–54).<sup>146</sup> The content and strength of the Innate Concept thesis varies with the concepts claimed to be innate. The more a concept seems removed from experience and the mental operations we can perform on experience the more plausible it may be claimed to be innate. Since we do not experience perfect triangles but do experience pains, our concept of the former is a more promising candidate for being innate than our concept of the latter.

The Intuition/Deduction thesis, the Innate Knowledge thesis, and the Innate Concept thesis are essential to rationalism: to be a rationalist is to adopt at least one of them. Two other closely related theses are generally adopted by rationalists, although one can certainly be a rationalist without adopting either of them. The first is that experience cannot provide what we gain from reason.

*The Indispensability of Reason Thesis:* The knowledge we gain in subject area, S, by intuition and deduction, as well as the ideas and instances of knowledge in S that are innate to us, could not have been gained by us through sense experience.

The second is that reason is superior to experience as a source of knowledge.

*The Superiority of Reason Thesis:* The knowledge we gain in subject area S by intuition and deduction or have innately is superior to any knowledge gained by sense experience.

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<sup>145</sup> Woolhouse, R.S. *The Concept of Substance in Seventeenth Century Metaphysics*. New York: Routledge, 1993, p.22

<sup>146</sup> Ibid., p.21

How reason is superior needs explanation, and rationalists have offered different accounts. One view, generally associated with Descartes (1628, Rules II and III, pp. 1–4)<sup>147</sup>, is that what we know *a priori* is certain, beyond even the slightest doubt, while what we believe, or even know, on the basis of sense experience is at least somewhat uncertain. Another view, generally associated with Plato (*Republic* 479e-484c), locates the superiority of *a priori* knowledge in the objects known. What we know by reason alone, a Platonic form, say, is superior in an important metaphysical way, e.g. unchanging, eternal, perfect, a higher degree of being, to what we are aware of through sense experience.

Most forms of rationalism involve notable commitments to other philosophical positions. One is a commitment to the denial of skepticism for at least some area of knowledge. If we claim to know some truths by intuition or deduction or to have some innate knowledge, we obviously reject skepticism with regard to those truths. Rationalism in the form of the Intuition/Deduction thesis is also committed to epistemic foundationalism, the view that we know some truths without basing our belief in them on any others and that we then use this foundational knowledge to know more truths. Empiricists endorse the following claim for some subject area.

## **5.2. The Empiricists Hypothesis:**

We have no source of knowledge in S or for the concepts we use in S other than sense experience.

Empiricism about a particular subject rejects the corresponding version of the Intuition/Deduction thesis and Innate Knowledge thesis. Insofar as we have knowledge in the subject, our knowledge is *a posteriori*, dependent upon sense experience. Empiricists also deny the implication of the corresponding Innate Concept thesis that we have innate ideas in the subject area. Sense experience is our only source of ideas. They reject the corresponding version of the Superiority of Reason thesis. Since reason alone does not give us any knowledge, it certainly does not give us superior knowledge. Empiricists generally reject the Indispensability of Reason thesis, though they need not. The Empiricism thesis does not entail that we have empirical knowledge. It entails that knowledge can only be gained, *if at all*, by experience. Empiricists may assert, as some do for

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<sup>147</sup> Cottingham, John. *Descartes*. New York: Blackwell, 1986.p.4

some subjects, that the rationalists are correct to claim that experience cannot give us knowledge. The conclusion they draw from this rationalist lesson is that we do not know at all.

I have stated the basic claims of rationalism and empiricism so that each is relative to a particular subject area. Rationalism and empiricism, so relativized, need not conflict. We can be rationalists in mathematics or a particular area of mathematics and empiricists in all or some of the physical sciences. Rationalism and empiricism only conflict when formulated to cover the same subject. Then the debate, Rationalism vs. Empiricism, is joined. The fact that philosophers can be both rationalists and empiricists has implications for the classification schemes often employed in the history of philosophy, especially the one traditionally used to describe the Early Modern Period of the seventeenth and eighteenth centuries leading up to Kant. It is standard practice to group the major philosophers of this period as either rationalists or empiricists and to suggest that those under one heading share a common agenda in opposition to those under the other. Thus, Descartes, Spinoza and Leibniz are the Continental Rationalists in opposition to Locke, Berkeley and Hume, the British Empiricists. We should adopt such general classification schemes with caution. The views of the individual philosophers are more subtle and complex than the simple-minded classification suggests.

Locke rejects rationalism in the form of any version of the Innate Knowledge or Innate Concept thesis, but he nonetheless adopts the Intuition/Deduction thesis with regard to our knowledge of God's existence. Descartes and Locke have remarkably similar views on the nature of our ideas, even though Descartes takes many to be innate, while Locke ties them all to experience. The rationalist/empiricist classification also encourages us to expect the philosophers on each side of the divide to have common research programs in areas beyond epistemology. Thus, Descartes, Spinoza and Leibniz are mistakenly seen as applying a reason-centered epistemology to a common metaphysical agenda, with each trying to improve on the efforts of the one before, while Locke, Berkeley and Hume are mistakenly seen as gradually rejecting those metaphysical claims, with each consciously trying to improve on the efforts of his predecessors. It is also important to note that the rationalist/empiricist distinction is not exhaustive of the possible sources of knowledge. One might claim, for example, that we can gain knowledge in a particular area by a form of Divine revelation or insight that is a product of neither reason nor sense experience. In short, when used

carelessly, the labels ‘rationalist’ and ‘empiricist,’ as well as the slogan that is the title of this essay, ‘Rationalism vs. Empiricism,’ can retard rather than advance our understanding.

Nonetheless, an important debate properly described as ‘Rationalism vs. Empiricism’ is joined whenever the claims for each view are formulated to cover the same subject. What is perhaps the most interesting form of the debate occurs when we take the relevant subject to be truths about the external world, the world beyond our own minds. A full-fledged rationalist with regard to our knowledge of the external world holds that some external world truths can and must be known *a priori*, that some of the ideas required for that knowledge are and must be innate, and that this knowledge is superior to any that experience could ever provide. The full-fledged empiricist about our knowledge of the external world replies that, when it comes to the nature of the world beyond our own minds, experience is our sole source of information. Reason might inform us of the relations among our ideas, but those ideas themselves can only be gained, and any truths about the external reality they represent can only be known, on the basis of sense experience. This debate concerning our knowledge of the external world will generally be our main focus in what follows.

An empiricist response to this general line of argument is given by Locke<sup>148</sup>. First, there is the problem of explaining what it is for someone to have an innate concept. If having an innate concept entails consciously entertaining it at present or in the past, then Descartes’s position is open to obvious counterexamples. Young children and people from other cultures do not consciously entertain the concept of God and have not done so. Second, there is the objection that we have no need to appeal to innate concepts in the first place. Contrary to Descartes’ argument, we can explain how experience provides all our ideas, including those the rationalists take to be innate, and with just the content that the rationalists attribute to them.

Leibniz (1704) offers a rationalist reply to the first concern. Where Locke puts forth the image of the mind as a blank tablet on which experience writes, Leibniz offers us the image of a block of marble, the veins of which determine what sculpted figures it will accept.

‘This is why I have taken as an illustration a block of veined marble, rather than a wholly uniform block or blank tablets, that is to say what is called *tabula rasa* in the language of the philosophers. For

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<sup>148</sup> Locke, J. *An Essay Concerning Human Understanding*, R. Woolhouse (ed.), London: Penguin Books. 1997, p.33

if the soul were like those blank tablets, truths would be in us in the same way as the figure of Hercules is in a block of marble, when the marble is completely indifferent whether it receives this or some other figure. But if there were veins in the stone which marked out the figure of Hercules rather than other figures, this stone would be more determined thereto, and Hercules would be as it were in some manner innate in it, although labor would be needed to uncover the veins, and to clear them by polishing, and by cutting away what prevents them from appearing. It is in this way that ideas and truths are innate in us, like natural inclinations and dispositions, natural habits or potentialities, and not like activities, although these potentialities are always accompanied by some activities which correspond to them, though they are often imperceptible.’<sup>149</sup>

Leibniz’s metaphor contains an insight that Locke misses. The mind plays a role in determining the nature of its contents. This point does not, however, require the adoption of the Innate Concept thesis.

Rationalists have responded to the second part of the empiricist attack on the Innate Concept thesis the empiricists’ claim that the thesis is without basis, as all our ideas can be explained as derived from experience by focusing on difficulties in the empiricists’ attempts to give such an explanation. The difficulties are illustrated by Locke’s account. According to Locke, experience consists in external sensation and inner reflection. All our ideas are either simple or complex, with the former being received by us passively in sensation or reflection and the latter being built by the mind from simple materials through various mental operations. Right at the start, the account of how simple ideas are gained is open to an obvious counterexample acknowledged, but then set aside, by Hume in presenting his own empiricist theory. Consider the mental image of a particular shade of blue. If Locke is right, the idea is a simple one and should be passively received by the mind through experience. Hume points out otherwise.

“Suppose therefore a person to have enjoyed his sight for thirty years and to have become perfectly acquainted with colors of all kinds, except one particular shade of blue, for instance, which it never has been his fortune to meet with; let all the different shades of that color, except that single one, be placed before him, descending gradually from the deepest to the lightest, it is plain that he will perceive

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<sup>149</sup> Locke, J. *An Essay Concerning Human Understanding*, R. Woolhouse (ed.), London: Penguin Books. 1997, p.153

a blank where that shade is wanting and will be sensible that there is a greater distance in that place between the contiguous colors than in any other. Now I ask whether it be possible for him, from his own imagination, to supply this deficiency and raise up to himself the idea of that particular shade, though it had never been conveyed to him by his senses. I believe there are but few will be of the opinion that he can...<sup>150</sup>

Even when it comes to such simple ideas as the image of a particular shade of blue, the mind is more than a blank slate on which experience writes.

Consider too our concept of a particular color, say red. Critics of Locke's account have pointed out the weaknesses in his explanation of how we gain such a concept by the mental operation of abstraction on individual cases. For one thing, it makes the incorrect assumption that various instances of a particular concept share a common feature. Carruthers puts the objection as follows.

In fact problems arise for empiricists even in connection with the very simplest concepts, such as those of color. For it is false that all instances of a given color share some common feature. In which case we cannot acquire the concept of that color by abstracting the common feature of our experience. Thus consider the concept *red*. Do all shades of red have something in common? If so, what? It is surely false that individual shades of red consist, as it were, of two distinguishable elements a general redness together with a particular shade. Rather, redness consists in a continuous *range* of shades, each of which is only just distinguishable from its neighbors. Acquiring the concept *red* is a matter of learning the extent of the range.<sup>151</sup>

For another thing, Locke's account of concept acquisition from particular experiences seems circular. "As it stands, however, Locke's account of concept acquisition appears viciously circular. For noticing or attending to a common feature of various things presupposes that you already possess the concept of the feature in question". (Carruthers 1992, p. 55)<sup>152</sup>

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<sup>150</sup> Locke, J. *An Essay Concerning Human Understanding*, R. Woolhouse (ed.), London: Penguin Books. 1997, p.29

<sup>151</sup> Locke, J. *An Essay Concerning Human Understanding*, R. Woolhouse (ed.), London: Penguin Books. 1997, p.33

<sup>152</sup> Ibid, p.55

Consider in this regard Locke's account of how we gain our concept of causation.

"In the notice that our senses take of the constant vicissitude of things, we cannot but observe, that several particulars, both qualities and substances; begin to exist; and that they receive this their existence from the due application and operation of some other being. From this observation, we get our ideas of cause and effect."<sup>153</sup>

We get our concept of causation from our observation that some things receive their existence from the application and operation of some other things. Yet, we cannot make this observation unless we already have the concept of causation. Locke's account of how we gain our idea of power displays a similar circularity.

The mind being every day informed, by the senses, of the alteration of those simple ideas, it observes in things without; and taking notice how one comes to an end, and ceases to be, and another begins to exist which was not before; reflecting also on what passes within itself, and observing a constant change of its ideas, sometimes by the impression of outward objects on the senses, and sometimes by the determination of its own choice; and concluding from what it has so constantly observed to have been, that the like changes will for the future be made in the same things, by like agents, and by the like ways, considers in one thing the possibility of having any of its simple ideas changed, and in another the possibility of making that change; and so comes by that idea which we call power. (1690, Chapter XXI, Section 1, pp. 219–220)<sup>154</sup>

We come by the idea of power though considering the possibility of changes in our ideas made by experiences and our own choices. Yet, to consider this possibility of some things *making* a change in others we must already have a concept of power.

One way to meet at least some of these challenges to an empiricist account of the origin of our concepts is to revise our understanding of the content of our concepts so as to bring them more in line with what experience will clearly provide. Hume famously takes this approach. Beginning in a way reminiscent of Locke, he distinguishes between two forms of mental contents or

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<sup>153</sup> Ibid., p.292

<sup>154</sup> Locke, J. *An Essay Concerning Human Understanding*, R. Woolhouse (ed.), London: Penguin Books. 1997, p.219

“perceptions,” as he calls them: impressions and ideas. Impressions are the contents of our current experiences: our sensations, feelings, emotions, desires, and so on. Ideas are mental contents derived from impressions. Simple ideas are copies of impressions; complex ideas are derived from impressions by “compounding, transposing, augmenting or diminishing” them. Given that all our ideas are thus gained from experience, Hume offers us the following method for determining the content of any idea and thereby the meaning of any term taken to express it.

When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but inquire *from what impression is that supposed idea derived?* And if it be impossible to assign any, this will confirm our suspicion. (1748, Section II, p. 30)<sup>155</sup>

Using this test, Hume draws out one of the most important implications of the empiricists’ denial of the Innate Concept thesis. If experience is indeed the source of all ideas, then our experiences also determine the content of our ideas. Our ideas of causation, of substance, of right and wrong have their content determined by the experiences that provide them. Those experiences, Hume argues, are unable to support the content that many rationalists and some empiricists, such as Locke, attribute to the corresponding ideas. Our inability to explain how some concepts, with the contents the rationalists attribute to them, are gained from experience should not lead us to adopt the Innate Concept thesis. It should lead us to accept a more limited view of the contents for those concepts, and thereby a more limited view of our ability to describe and understand the world.

Consider, for example, our idea of causation. Descartes takes it to be innate. Locke offers an apparently circular account of how it is gained from experience. Hume’s empiricist account severely limits its content. Our idea of causation is derived from a feeling of expectation rooted in our experiences of the constant conjunction of similar causes and effects.

It appears, then, that this idea of a necessary connection among events arises from a number of similar instances which occur, of the constant conjunction of these events; nor can that idea ever be suggested by any one of these instances surveyed in all possible lights and positions. But there is nothing in a number of instances, different from every single instance, which is supposed to be exactly similar, except only that after a repetition of similar instances the mind is carried by habit, upon the appearance

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<sup>155</sup> Ibid., p.30

of one event, to expect its usual attendant and to believe that it will exist. This connection, therefore, which we *feel* in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression from which we form the idea of power or necessary connection. (1748, Section VII, Part 2, p. 86)<sup>156</sup>

The source of our idea in experience determines its content.

Suitably to this experience, therefore, we may define a cause to be an object followed by another, and where all the objects, similar to the first are followed by objects similar to the second... We may, therefore, suitably to this experience, form another definition of cause and call it *an object followed by another, and whose appearance always conveys the thought of the other*. (1748, Section VII, Part 2, p. 87)<sup>157</sup>

Our claims, and any knowledge we may have, about causal connections in the world turn out, given the limited content of our empirically based concept of causation, to be claims and knowledge about the constant conjunction of events and our own feelings of expectation. Thus, the initial disagreement between rationalists and empiricists about the source of our ideas leads to one about their content and thereby the content of our descriptions and knowledge of the world.

Like philosophical debates generally, the rationalist/empiricist debate ultimately concerns our position in the world, in this case our position as rational inquirers. To what extent do our faculties of reason and experience support our attempts to know and understand our situation?

### **5.3. Empiricists Perspective on Substance:**

British empiricist philosopher John Locke (1632-1704) followed closely the genealogy of the word "substance," saying that, on an empirical basis, one can know the qualities (what the medieval would have called the accidents) of the substratum. But that the substratum itself (what the medieval would have called the substance) is "something I know not what." He pointed out that one observes groups of qualities that occur together in time and space, and we therefore presume that these qualities belong to one thing, to which we give a name such as "gold," or "fish," or "peach," as a referent for that collection of perceived qualities. For Locke, substance, then, is not

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<sup>156</sup> Sleigh, R.C. *Leibniz and Arnauld: A Commentary on Their Correspondence*. New Haven: Yale University Press, 1990. P.86

<sup>157</sup> Ibid., p.87

a positive concept but an “obscure and relative” notion about “the supposed but unknown support of those qualities we find existing, which we imagine cannot exist *sine re substante* without something to support them.” (*Essay Concerning Human Understanding*, Book II, Ch. 23)<sup>158</sup>

Irish philosopher and Bishop George Berkeley (1685-1753) pushed Locke’s work further, claiming that there is no such thing as material substance, but only ideas and minds. Berkeley did, however, say that there is a substantial soul.

Scottish-born empiricist philosopher David Hume (1711-1776) usually held to be the greatest of the empiricists developed the full implications of the empiricisms of both Locke and Berkeley by denying the existence of any form of substance, either material or spiritual, since, he held, any conception that is not supported by sensory impressions is meaningless.

#### **5.4. Hume’s rejection of theory of Aristotle Substance:**

Hume did not believe in Aristotelian substance theory. In the *Treatise*, he explains his reasons for rejecting it. He believes that there are two experiences that people have in regard to things. In the first, some things change. Some things stay the same through the changes that happen to them. So we see both change and sameness in the world. The substance theory of Aristotle is one way of explaining that change. Hume rejects this theory because he falsely believes that there is no evidence for the existence of substances.

Hume’s argument is quite simple. We see that the world around us changes. There are various qualities in world. Let’s consider color and size. We might say that the ball is both red and spherical. According to Hume, we associate redness with being a sphere and call that a ball. Being both red and spherical and whatever else is true of the ball is the same as being a ball. There is nothing else there. According to Hume, Aristotelian substance theory says that there is one thing left when we subtract everything else. This one remaining thing is substance. But we cannot see substance or detect it in any way. Therefore, it does not exist.

The problem with Hume’s argument is in two parts. The most important part is that he has misunderstood Aristotle. Aristotle believes that substances can be easily sensed and examined.

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<sup>158</sup> John Locke, *Essay Concerning Human Understanding*, p.23

The red ball is the substance. When we see the redness, we are seeing the way that the substance exists. All of the qualities are the qualities of the substance. If they were all removed then there would be no substance. So although Hume's argument works, he is arguing against something Aristotle never said.

The second problem with Hume's argument is that he rejects the real substance theory of Aristotle as well as the false theory. He believes that the ball is simply a bundle of qualities. This is absurd. Not all qualities are created equal. Some qualities are deeper than other qualities. The qualities are related to each other by a structure. If this is a rubber ball, then the quality of "being bouncy" is explained by the qualities of rubber. The red color is explained by the nature of the paint chemicals. Eventually we come to qualities so basic that the ball requires them in order to be a ball. These are the properties of the ball. The previous qualities are the accidents of the ball. The properties of the ball are all required to be a ball because they are required by what a ball is the essence of being a ball. But this is Aristotelian substance theory. Hume simply did not analyze his rejection of Aristotle nearly as deeply as he should have. Thus Locke's "something I know not what" is, Hume held, without meaning.

Hume was consistent in this, denying that there is any human or personal "self" to be found. "When I enter most intimately into what I call myself," he wrote, "I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never catch myself at any time without a perception, and never can observe anything but the perception." (*Treatise of Human Nature*, "Of Personal Identity," Book I, p. 525.) Descartes' "Cogito, ergo sum" is completely impossible in Hume's philosophy

### **5.5. Locke's Idea of Understanding Substance:**

In giving us his estimate of the limits of human understanding, Locke made some claims which surprised his contemporaries. And he suggests that given our ignorance of substances, it was possible that God could make matter fitly disposed think. He writes:

We have the *Ideas* of *Matter* and of *Thinking*, but possibly shall never be able to know, whether any material being thinks, or no; it being impossible for us, by the contemplation of our own *Ideas*, without revelation, to discover whether Omnipotence has not given to some System of

Matter fitly disposed, a power to perceive and think, or else joined to matter so disposed, a thinking immaterial substance.

In Book IV of the *Essay* Locke makes a distinction between what we can know and propositions that are only probable. In the passage quoted above he is telling us that we may never be able to know whether dualist or materialist theories of mind are true. If we can't know which position is true, that would seem to be the end of it. But, in fact, even though we may never know which is true, this leaves entirely open the question of which view is more plausible or probable.

In his recent book, *Locke's Touchy Subjects* (2015) Nicholas Jolley argues that a variety of different passages in *An Essay Concerning Human Understanding* and other works, including his Correspondence with Bishop Stillingfleet suggest that Locke is trying to show that a weak form of materialism is a plausible candidate in the Philosophy of Mind (Jolley 2015: 8)<sup>159</sup>. What Jolley has in mind is form of materialism that is compatible with a dualism of properties (Jolley 2015: 11–12).<sup>160</sup>

Locke's motivations are theological as much as metaphysical. Jolley claims that as a theologian Locke deals with issues in both natural, and perhaps more surprisingly, revealed religion. In Jolley's view Locke's weak form of materialism is an important piece in a theological reconciling project. Let us return to Locke's remarks about thinking matter to see how this might be so.

In the passage from Book IV quoted above, Locke is telling us that both possibilities, thinking matter and immaterial thinking substance, are beyond our comprehension and require in either case God to add the powers of perception and thought to matter or to the immaterial substance which is then joined to the fitly disposed matter.

The thinking matter hypothesis disturbed a number of Locke's early critics. In his proof for the existence of God in Book IV of the *Essay* Locke had adopted a conclusion of an argument substance dualists used to defend dualism, namely: "For it is impossible to conceive, that ever bare incognitive Matter, should produce a thinking intelligent Being, as that Nothing of itself produces

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<sup>159</sup> Jolley, Nicholas. *Leibniz*. Routledge: 2005 p.8

<sup>160</sup> Ibid., p.12

Matter” (IV.10.9 10–13, N: 623).<sup>161</sup> This is because, as the dualist claimed, from motion all you get is motion, from figure only other figures. Since perception and thought are not motions or figures, they cannot be caused by matter. It appeared to some of his critics that this conclusion, which Locke uses to show that there must be some eternal immaterial cognitive Being (namely God), would also rule out Locke’s thinking matter hypothesis. Indeed, it would seem that his suggestion in IV.3.6 and his adoption of the principle in IV.10.9 amount to a contradiction. Locke, however, explicitly denies this. In another part of the discussion of thinking matter, he writes:

For I see no contradiction in it, that the first Eternal Thinking Being, should, if he pleased, give to certain systems of created, senseless matter, put together as he thinks fit, some degree of sense, perception and thought: Though I think as I have proved, Lib IV c.10th it is no less than a contradiction to suppose matter (which is in its own nature void of sense and thought) should be that eternal first thinking Being. What Certainty of knowledge can anyone have that some perceptions, such as e.g. pleasure and pain, should not be in some bodies themselves, after a certain manner modified and moved, as well as they should be in an immaterial Substance, upon the motion of the parts of the Body: Body as far as we can conceive being only able to strike and affect body; and Motion according to the utmost reach of our *Ideas*, being able to produce nothing but Motion, so that when we allow it to produce pleasure or pain, or the *Ideas of Color*, or Sound, we are fain to quit our Reason, go beyond our *Ideas* and attribute it wholly to the good pleasure of our Maker. For since we must allow that he has annexed Effects to Motion, which we can no way conceive Motion able to produce, what reason have we to conclude, that he could not order them as well as to be produced in a Subject we cannot conceive capable of them, as well as in a Subject we cannot conceive the motion of Matter can any way operate upon? (IV.3.6, N: 18–30)<sup>162</sup>

Locke claims that it was no farther beyond our comprehension that motions of the body could give rise to pleasure and pain, colors and sounds, than that an immaterial soul could feel pain or see

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<sup>161</sup> Woolhouse, R., “The nature of an individual substance”, in *Leibniz: Critical and Interpretive Essays*, M. Hooker (ed.), Minneapolis: University of Minnesota Press, 1982 45–64. Reprinted in Woolhouse (1994), p.82–104.

<sup>162</sup> Woolhouse, R., “The nature of an individual substance”, in *Leibniz: Critical and Interpretive Essays*, M. Hooker (ed.), Minneapolis: University of Minnesota Press, 1982 45–64. Reprinted in Woolhouse (1994), p.18–30

colors after the occurrence of some motions in the body. Plainly, he is using the mind body problem to suggest that there are features of substance dualism that are just as puzzling as the fact that the standard corpuscularian mechanism cannot explain thinking matter. Locke is putting the dualist and materialist positions on the same footing. He immediately draws the theological conclusion that follows from the two hypotheses being equally plausible:

All the great ends of Morality and Religion, are well enough secured without the philosophical Proofs of the Soul's Immateriality; since it is evident that he who, at first made us beings to subsist here, sensible intelligent Beings, and for several years continued us in such a state, can and will restore us to a like state of Sensibility in another World, and make us there capable to receive the Retribution he has designed to men, according to the doings in this life. And therefore tis not a mighty necessity to determine one way or together, as some overzealous for or against the Immateriality of the Soul, have been foreward to make the World believe.

In this passage about the great ends of morality and religion Locke is claiming that the issue of whether the soul is material or immaterial is of no great importance for morality or the ends of religion. There will be a resurrection of the dead, judgment and just rewards and punishments will be meted out, whether the thing that thinks in us is material or immaterial. By showing that on either account the ends and purposes of morality and religion will be served, Locke is reconciling the contestants on either side by showing that what is at stake will be gained either way. So the fierce contention over the immateriality of the soul can be set aside because it doesn't matter. God's Omnipotence resolves the need for this debate. This is, I take it what Jolley has in mind by Locke's "reconciling strategy".

### **5.6. Berkeley's Rejection of Material Substance:**

We can now consider Berkeley's own explicit arguments. We may divide them into three groups, viz.

1. direct arguments for his view,
2. attacks on certain alternative views, and
3. Discussion of certain possible objections to his view.

I shall confine myself here to the direct arguments against the existence of material substance. These may be divided into

The 'esse' = 'percipi' argument, and

A pair of supplementary arguments.

I will now consider these three in turn.

2.1. The 'esse' = 'percipi' argument.

At the end of Section 4 of the Principles of Human Knowledge Berkeley asks three rhetorical questions, and they constitute his main positive argument on this topic. I will now deal with them in the light of our preliminary clarification.

The questions are these:

"What are" houses, mountains, etc., "but the things which we perceive by sense?"

"What do we perceive beside our own ideas or sensations?"

"Is it not plainly repugnant [i.e., internally inconsistent] that any of" our ideas or sensations "or any combination of them, should exist unperceived?"

Berkeley evidently expects us to answer the first two questions with 'nothing', and the third with 'yes'. If we do so, the argument would then run as follows: 'Houses, mountains, etc., are nothing but things which we perceive with our senses. Things that we perceive with our senses are nothing but our own ideas or sensations. But it is plainly self-contradictory to suppose that any one of our ideas or sensations, or any combination of them, should exist unperceived. Therefore, it is self-contradictory to suppose that houses, mountains, etc., should exist unperceived'. I will now take the three rhetorical questions in turn.

(1) If there are such things as 'houses', 'mountains', etc., they are certainly things which we can and often do perceive with our senses. But they would be a great deal more than that. They would be particulars which, even when we are perceiving an item, have many parts and many qualities which they are not directly manifesting to our senses. For they would have insides as well as outsides, backs as well as fronts, temperatures and textures as well as colors, and so on. Again, each of them would be a thing which can be perceived by several persons simultaneously or successively, and

by the same person on many different occasions, from various points of view and by means of various kinds of sensations. Lastly, they would be things which have characteristic powers and dispositions, which interact with each other, and which unfold their various histories whether anyone happens to be perceiving them or not. Berkeley is arguing from the common meanings and usages of ordinary words and sentences. If so, he ought to take into account their full meanings and implications, and not just a small selection which specially favors his case.

(2) Either the word 'perceive' is being used in the same sense in the second question as in the first, or in a different sense. If it is used in a different sense, the argument collapses through having an ambiguous middle term. But, if it is used in the same sense, it is simply untrue that what a person perceives is 'his own ideas and sensations'. What we ostensibly perceive is houses, mountains, rivers, etc. To apply the phrase 'one's own' to these, in the sense in which it is used in the phrase 'one's own sensations' is quite meaningless. It can be applied to them only in the quite different and irrelevant sense of legal ownership, as when one talks of 'my umbrella' or 'your bicycle'. You and I may perceive St. Paul's Cathedral; it is quite meaningless to say that you perceive your St. Paul's and I perceive mine.

There is one and only one interpretation which I can put on the second question which would enable me to answer it affirmatively. I should have to transform it as follows: 'What does a person sense, on any occasion when he is perceiving a material thing, but a sensible? Is it not plain that this cannot be identified with the thing as a whole, and doubtful whether it can be identified even with a part of the thing's surface? Is it not plain, in any case, that it does not manifest to the percipient all the qualities which he takes to be possessed by the part of the thing which he is perceiving? And is not the fact that a person senses such and such a sensible on a certain occasion, and that it then manifests to him such and such sensible characteristics, always determined to some extent by his position and orientation and by the sense-organs which he is using at the time? I think that the answer to these questions is: 'Yes'. But an affirmative answer to them does not help Berkeley's argument.

(3) The third question is equivalent to the following: 'Is it not self-contradictory to suppose that there might be unsensed sensibilia?' In Section 3 of the Principles Berkeley says that the statement: 'There was a sound' just means: 'A sound was heard'; 'There was an odour' just means: 'An odour was smelled'; and so on. He sums this up by saying that 'to exist', as applied to sensible objects,

just means 'to be perceived'. (For reasons which I have already given, I shall substitute 'to be sensed' for 'to be perceived'.)

It is plain, however, from what he says elsewhere that Berkeley would wish to modify this at least in one or other of the following two ways. (i) 'There was a sound' means: 'Either a sound was actually heard by some man or animal, or one would have been heard if certain conditions, wholly describable in terms of sensations, had been fulfilled'. (ii) 'There was a sound' means: 'Either a sound was heard by some man or animal, or, if not, a sound was in some way present to the mind of God'.

I think it is fairly plain that Berkeley really took the second alternative. In Section 48 of the *Principles* he writes as follows: "For, though we hold . . . the objects of sense to be nothing . . . but ideas which cannot exist unperceived; yet we may not then conclude that they have no existence except only when perceived by us, since there may be some other spirit that perceives them, though we do not. Wherever bodies are said to have no existence without the mind, I would not be understood to mean this or that particular mind, but all minds whatsoever." Again, in *Dialogue II* of the *Dialogues* between Hylas and Philonous he makes the following explicit statement: ". . . I conclude, not that they have no real existence, but that, seeing that they depend not on my thought and have an existence distinct from being perceived by me, there must be some other mind wherein they exist." The fact is that Berkeley himself was not a phenomenalist, though phenomenism is a very natural alternative line of development from his principles.

Now I think it is fantastic to suggest that any proposition about God is part of the meaning of such a statement as: 'There was still a hooting sound going on when the ship's foghorn continued to blow after all the ship's company had moved away out of earshot in the lifeboats'. Let us, then, ignore this alternative here, and consider the other, i.e., the phenomenalist one. According to this, the only meaning which can be attached to this statement, although it is in the indicative mood, is the conditional proposition that, if a man or other suitably equipped animal had been within earshot, he would have heard a hooting sound. What are we to say of this kind of contention?

(1) I think that many people would find it almost self-evident about odours and tastes, and highly plausible about sounds. But I would remark that the antecedent of the conditional involves the notion of being within earshot or some similar notion, i.e., the notion of an observer having a body which conditions his sensations and of that body being in a certain kind of spatial relation to

another body which is supposed to be emitting the sound or the odour. I think that the plausibility and even the intelligibility of the proposed analysis vanish, if we try to analyze these features in the antecedent of the conditional in the way in which we have analyzed the original proposition that there was a hooting sound.

(2) However that may be, does anyone find this kind of analysis in the least plausible, if applied to sensibilia of the kind which a person senses when he ostensibly sees or touches a body and when there is no ordinary common-sense reason to think that his ostensible perception is delusive? So far from it seeming obvious to me, it does not seem *prima facie* to be even plausible. When I look at a cricket-ball, e.g., I automatically take what is being sensibly presented to me, viz., a certain round convex brown expanse, to be part of the surface of a certain body. I unhesitatingly take for granted that the rest of its surface, which is not now being sensibly presented to me, is now round and convex and brown, in precisely the same way in which my present immediate object is so. I unhesitatingly take for granted that my present immediate object existed before I began to sense it and that it will continue to exist after I have ceased to do so. I assume that it then was and then will be round and convex and brown in precisely the way in which it now is so. I unhesitatingly take for granted that my present immediate object now is smooth and hard and cold, although I am not now sensing it as such; and that, if I were to touch it, I should sense it as having these qualities, which it already has but is not sensibly presenting itself to me as having. Arguments may be produced to show that these instinctive beliefs are false or highly doubtful. But when I am told that I cannot possibly have them, because all this is meaningless nonsense which I cannot even think, and that I must instead be believing some conditional proposition about what I or someone else would sense under certain unfulfilled conditions, I remain wholly unconvinced.

Why is it that Berkeley's contention seems so obvious about odours, so plausible about sounds, and so unconvincing about the colour-expanses which one senses when one ostensibly sees bodies? We may begin by noting the following fact. The cases in which it seems obvious are those in which the percipient has no tendency to regard the sensible which he senses as part of the material thing which he ostensibly perceives. The cases where it seems unplausible are those in which he naturally takes for granted that the sensible which he senses is part of the surface of the material thing which he ostensibly perceives. Now in the former cases the percipient also has no tendency to believe that the sensible which he senses has other qualities or parts or spatio-temporal

continuations besides those which it sensibly presents itself to him as having. In the later cases, as we have seen, he always takes such things for granted about the sensible which he senses. It is worth noticing that, even in the case of visual sensations, the Berkeleian contention is by no means unpalatable for those vague, peripheral, or unusual sense-data which the percipient does not automatically and uncritically take to be a part of the surface of some body which he is looking at more or less directly. Take, e.g., the case of a visual after-sensation experienced with closed eyes, or the 'stars' which a person 'sees' when a blow is struck on his eye. It seems plausible, rather than shocking, to suggest that each of these exists only as sensed by a certain one person on a certain one occasion. And in the case of what are called 'mental images' of the visual kind, I suppose that everyone would find Berkeley's contention *prima facie* obvious, and the doctrine that such a coloured extended particular could exist except as imaged by a certain one person on a certain one occasion extremely paradoxical.

The fact is that Berkeley leads his readers 'up the garden path' at this point by the following two devices. (1) He discusses explicitly the case of an unheard sound, i.e., a sensible of a kind which no one regards as a part of a body or of its surface even when it is sensed in connection with ostensibly perceiving a body, e.g., hearing a bell tolling. (2) He assimilates the sensible which one senses when one is ostensibly seeing a body, to a visual mental image or to the sense-datum of a visual after-sensation. He takes for granted that it has and can have only the qualities which it is now sensed as having, viz., a certain colour and a certain extension and figure; whereas the instinctive belief of common-sense is that it can and does have others besides, viz., a certain texture and a certain temperature, which it is not now sensed as having simply because the appropriate sense-organ is not in operation.

It is fair to say that he had already argued elaborately in the *New Theory of Vision* against the possibility that any particular prehended by sight should be identical with any particular prehended by touch. We must therefore briefly consider the argument at this point. For, if it were valid, it would justify Berkeley in holding that the visual sensibilia sensed when one ostensibly perceives a body resemble visual mental images and the sense-data of visual after-sensations in having none but purely visual qualities. The argument occurs in Section 49 of the *New Theory of Vision*. He assumes there as a premise something which he claims to prove considerably later on, viz., in Section 121 and those that immediately follow it. The premise is that no characteristic which a

particular is visually sensed as having can be identical with any characteristic which a particular is tactually sensed as having, and conversely. Thus, e.g., if I say and say truly: 'This looks round' and 'that feels round', the word 'round' must stand in the one sentence for a determinate under one determinable and in the other sentence for a determinate under a wholly different determinable. We need not here discuss whether this is true or false, well established or ill established. Let us grant it for the sake of argument.

Berkeley says that the correct conclusion to draw from this premise is that a visually sensed particular and a tactually sensed one could never be the same particular. It seems to me quite plain that this does not follow from the premise. In order to prove the conclusion the premise needed is that characteristics which can be visually sensed are incompatible with those which can be tactually sensed. He has made no attempt to show this. And the more you insist that they fall under radically different determinables, the less reason you have to accept this. If the word 'round' in the sentence 'This feels round' and the word 'elliptical' in the sentence 'This looks elliptical' denote qualities which fall under quite different determinables, there is no obvious reason why a particular which feels round and a particular which looks elliptical should not be one and the same particular. A fortiori there is no obvious reason why a particular which looks brown and a particular which feels cold and smooth and hard should not be one and the same particular.

I have now examined in turn the three steps in Berkeley's 'esse' = 'percipi' argument. It is time to draw together the threads and examine the argument as a whole in the light of our comments on the parts. What Berkeley claims to prove is that it is self-contradictory to suppose that houses, mountains, and other bodies should exist unperceived? It is plain that in order to do this it is not enough to prove that it is self-contradictory to suppose that sensibilia should exist unsensed. It is necessary to add to this the premise that a body is a sensible, or a set of interrelated sensibilia, and nothing besides. What emerges from my comments is that Berkeley is faced with the following dilemma. There certainly are sensations with regard to which it is highly plausible to hold either (a) that the analysis into act of sensing and sensible sensed does not apply to them, or (b) that, if it does, then it is obvious that no such sensible could exist except as a sense-datum to a certain one person on a certain one occasion. Examples are sensations of smell, auditory sensations, and visual after-sensations. But in the case of none of these sensations would it be at all plausible to maintain that the sensibilia sensed are in any way parts of the bodies ostensibly perceived, or of

any other bodies. On the other hand, there are sensibilia, viz., those which a person senses when he ostensibly sees or touches a body, which are taken by the percipient to be parts of the surface of the body seen or touched. But in the case of none of these sensibilia is it all obvious that the supposition that they might exist unsensed is intrinsically absurd. It can be made to seem absurd only by assuming, contrary to what common sense takes for granted, that they can have no qualities beside those which the person who senses them at any moment then senses them as having. This amounts to assuming that it is absurd to suppose that one and the same sensible could be sometimes a purely visual sense-datum, sometimes a purely tactual sense-datum, and sometimes both a visual and a tactual sense-datum. I have tried to show that Berkeley's argument in the *New Theory of Vision* to show that this is absurd is quite inconclusive. But it would not help his case even if it were conclusive. For, just in proportion as we assimilate these sensibilia to visual images or the sense-data of visual after-sensations, so does it become increasingly unpalatable to identify any body with any one of these sensibilia or any collection of them.

I conclude, then, that the argument is a failure. But I am sure that, like the ontological argument, it is a most interesting and important failure and far more valuable philosophically than most successes. Moreover, there are other arguments, based on certain specific features of ostensible sense-perception and on its physical and physiological conditions, which claim to show that the sensible which a person senses, when he ostensibly sees or touches a body, cannot in fact be a part of the surface of that or any other body, and probably exists only in so far as it is a sense-datum to that person on that occasion. I find the cumulative effect of these arguments very convincing, and the attempted rebuttals very weak, though I admit that the arguments are neither severally nor collectively coercive.

### **5.7. Kant's Critical Revision of the Metaphysics of Substance**

Aristotle was the first philosopher to highlight the importance of the concept of substance. He designated substance as a category and defined it as a substrate of change, meaning that substance persists while its attributes or accidents change. Thus, substance became the first (or last) subject of predication. Aristotle introduced this definition in his book *On the Categories*. Despite his original intentions, this definition of substance attracted enormous attention and became particularly important in the following centuries. Unsurprisingly, this definition can also be found in Kant's major theoretical work, the *Critique of Pure Reason*. Moreover, Kant's pure concepts of

understanding are named after the Aristotelian categories. However, Kantian categories differ significantly from the Aristotelian categories; for Kant, categories are a priori concepts of understanding, which correspond to the pure forms of intuition, namely, space and time. In addition, a closer look at Kant's concept of substance reveals that there are two further determinations of this concept in the *Critique of Pure Reason*: the schema of substance and substance in the First Analogy of Experience.<sup>163</sup>

### ***The schema of substance***

With this argument in mind, let me now briefly discuss this admittedly obscure portion of the first *Critique*. It is essential to keep in mind that pure concepts of understanding precede every possible experience. Kant takes this finding to be a major result of the preceding Deduction of Pure Concepts. However, pure concepts or categories are restricted in their use to the sphere of sensibility. Thus, there cannot be an effective application that leads to any cognition that is independent of experience. Any application of the understanding is directed at sensibility, as Kant explicitly holds.<sup>18</sup> One might therefore assume that understanding has only an auxiliary or serving position to sensibility.<sup>19</sup> In contrast, the given manifold of sensibility must be brought under the categories; that is, there is only an objective cognition by means of an application of the categories. The unifying activity of understanding makes the successive synthesis of the empirical manifold possible and thus makes an empirical cognition possible. For this reason, the categories are the precondition and at the same time objective ground of experience, and only by means of the categories as 'concepts of an **object** in general' (*CPR*, A108) can objects be thought.<sup>20</sup> Nevertheless, the very same categories considered in themselves are nothing more than 'logical functions, but that as such they do not constitute the least concept of an object in itself but rather need sensory intuition as a basis' (*Prol* §39, AA04: 324; translated by Gary Hatfield).<sup>164</sup>

Once again, Kant separates two sources of human cognition, sensibility and understanding that must be mutually applied. The categories, as functions of understanding, correspond to the forms of pure intuition, i.e., space and time. Every sensual intuition must be brought under categories as the conditions under which the manifold of sensory intuition can be unified in one consciousness.

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<sup>163</sup> Wiggins, D., *Identity and Spatio-Temporal Continuity*, Oxford: Blackwell. 1967., p.108

<sup>164</sup> *Ibid.*, p.324

An object is given through sensibility, and the very same object is conceived of through the categories. I cannot delve further into this very complex and problematic Kantian idea. This brief explanation must suffice for our purpose, as a detailed analysis would lead us into the depths of the Transcendental Deduction. What concerns us here is a particular problem that Kant observes. The necessary relationship asserted between sensation and the categories as preconditions of empirical cognition poses a special difficulty. Because of the strict separation of sensibility and understanding, Kant finds that sensations must have a completely dissimilar nature compared to pure concepts of understanding. Therefore, according to Kant, something else is needed align the two. This function is served by the faculty of judgement, which is supposed to be responsible for this intermediation between understanding and sensibility. How does the faculty of judgement serve this function? Kant first emphasizes that in order to accomplish this purpose, something else is required that is, on one side, homogeneous with the categories and, on the other side, homogeneous with intuition. ‘This mediating representation must be pure (without anything empirical) and yet intellectual on the one hand and sensible on the other. Such a representation is the transcendental schema’ (*CPR*, A138/B177)<sup>165</sup>. Kant finds this bridge between categories and appearances in the inner form of intuition, i.e., time. Time is both contained in any empirical intuition and is grounded in an a priori rule, ‘which constitutes its unity’ (*CPR*, A138/B177).<sup>166</sup>

The formal and sensual conditions that restrict the use of pure understanding with respect to the application of the categories are thus the schemata of the concepts of understanding. In this task, the schema provides the method by which the faculty of imagination provides a ‘concept with its image’. (*CPR*, A140/B180). The image seems to fill the gap between pure concepts and intuition. An image is, on the one hand, a type of representation (as the pure concepts are) and, on the other hand, something to be intuited. Unfortunately, Kant does not go into detail, and the argument provided in the Schematism is very scarce. He concludes with his overall determination of the schemata, according to which schemata are nothing more than determinations of time according to a priori rules, which, according to the system of the categories, attend to ‘the time series, the

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<sup>165</sup> Wiggins, D., *Identity and Spatio-Temporal Continuity*, Oxford: Blackwell. 1967., p.177

<sup>166</sup> Ibid., p.180

content of time, the order of time, and finally the sum total of time in regard to all possible objects' (*CPR*, A145/B184-185).<sup>167</sup>

This must suffice as an outline of the overall systematic. Let us now turn to the schema of substance. As we have seen, the category of substance is arranged under the title of relation in the table of categories. The categories that fall under the title of relation are distinguished from the other categories by the fact that they are based on the existence of phenomena. Thus, for the schema of substance, the conditions must be specified and subsequently met by a temporally determined object for the category of substance to be applied to the object. Therefore, the necessary conditions are desired for the temporally determined object to only hold the position of a subject and never to be a predicate in a judgement of understanding. Through this judgement, understanding spontaneously constitutes the objectivity of the given manifold. At this point, both change and recognisability become important. What can be identified during a change of states as an underlying substrate i.e., from which the changes can be recognized as differing states in a logical respect remains a subject to which changing predicates can be attributed. The schema of substance is, in this sense, determined by Kant to be 'the persistence of the real in time, i.e., the representation of the real as a substratum of empirical time-determination in general, which therefore endures while everything else changes' (*CPR*, A144/B183).<sup>168</sup>

We are now in the position to give an answer to a particular class of questions concerning the relationship of the two different definitions of substance that come with the schema and the pure concept of substance. From what has already been said, it follows that schemata do not simply supplement the pure category of substance, as Van Cleve suggests, because what is permanent is temporal and furthermore importantly spatial. However, the pure concept of substance, in its unrestricted form, aims at intelligible entities with internal determinations. This, according to Kant, is exactly the reason that Leibniz changed substance to monads with ideal inner determinations. What precise form the Kantian view took will be discussed in detail in the next section. For the moment, it is enough to note that categories must be schematized to be applicable and that the category of substance can only be applied to any intuition in virtue of its schema.

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<sup>167</sup> Wiggins, D., *Identity and Spatio-Temporal Continuity*, Oxford: Blackwell. 1967, p.185

<sup>168</sup> *Ibid.*, p.183

This, however, is the most problematic aspect of the discussion of substance: the employment of the category of substance under its sensual schema in the First Analogy of Experience.

### Substance in the First Analogy of Experience

The First Analogy of Experience is a special case of the application of a pure category under its sensual schema. Therefore, it is first necessary to consider the function of the principle of judgement and, moreover, the overall role of the analogies in the architectonic of the *Critique of Pure Reason*. Subsequently, we consider the First Analogy of Experience as the place where a synthetic judgement ‘follows a priori from pure concepts of understanding’ (A136/B175).

In his *Lectures on Logic* published by Jäsche Kant underlines the twofold structure of the power of judgement. He differentiates a determinative and a reflective power of judgement. The determining power goes from the universal to the particular, while the reflective power goes from the particular to the universal. According to Kant, this universal with which the reflective power of judgement is concerned is only an empirical universal that is ‘a mere analogue of the logical’ (The Jäsche Logic, § 81, 131-132). Thus, insofar as the power of judgement is merely concerned with inferences (for they have only empirical validity), it is not determinative. Therefore, judgement does not determine the object itself ‘but only the mode of reflection concerning it, in order to attain its cognition’ (The Jäsche Logic, § 82, 132).

Thus, at least according to his logic lectures, Kant ascribes to the power of judgement as a whole with two types of inference: induction and inference according to analogy. With respect to the analogies of experience, we are mainly interested in the second type of inference.

A judgement by analogy results from many given determinations and qualities in which things of the same kind agree with one another and with the remaining things of the very same kind, insofar as they are comprehended by the same principle:

Analogy infers from particular to total similarity of two things, according to the principle of specification: Things of one genus, which we know to agree in much, also agree in what remains, with which we are familiar in some things of this genus but which we do not perceive in others. [...] analogy extends the given properties of one thing to several [other properties] *of the very same thing*. – [...] *many in one* (which are also in others), hence also what remains in the same thing: *Analogy*. [...] In the inference according to analogy, however, *identity of the ground* (par ratio) is not required. In accordance with analogy we infer only rational inhabitants of the moon, not men. Also, **one cannot infer according to analogy beyond the *tertium comparationis***. (The Jäsche Logic, § 84 (note 1), 133; translation by J. Michael Young; highlighted by the author)

Thus, the many can only agree in one on the basis of a common principle.<sup>28</sup> because the inferences of the power of judgement must be in agreement with this principle, they cannot be considered as immediate conclusions. Furthermore, one must pay special attention to the *tertium comparationis*. On the one hand, this common basis of comparison makes the inference according to analogy possible but, on the other hand, it restricts the inference because one cannot infer beyond it.

If one assumes that Kant, at least in principle, upholds this overall idea concerning the function and method of the power of judgement provided in his logic lectures, one might rightly assume that the discussion of the First Analogy of Experience itself presupposes a principle and a *tertium comparationis*. Accordingly, both can be found in the case of the First Analogy. The analogies are preceded by the exposition of the General Principle of the Analogies, and the argument of the analogy itself relies on this *tertium comparationis*, as we will see. Let us first consider the General Principle of the Analogies, which, like the other three analogies, was modified in the second edition to remove the supposed lack of sufficient evidence in the proofs of the principles of pure understanding.<sup>29</sup> I cannot delve into the details of the Kantian modifications, but a close look at the b-version of the argument will suffice for our purpose. In 1787, the General Principle of the Analogies reads as follows:

Experience is possible only through the representation of a necessary connection of perception  
(*CPR*, B218)

The formulation of the principle affirms the difference between perception and experience. This differentiation plays a crucial role in the argument, which can be further divided into five steps.

1. Experience is an empirical cognition that determines an object through perceptions. However, this cognition is not contained in perception but implies the synthetic unity of consciousness (*CPR*, B218/219).
2. The order of the apprehension of perception is contingent (*CPR*, B219):  
‘perceptions come together only contingently’ (*CPR*, B219).

3. Because experience is a necessary cognition of objects through perception, the relation in the being of the manifold must be represented as it objectively exists in time (*CPR*, B219).
4. Time cannot be perceived in itself (*CPR*, B219). Thus, one cannot objectively determine time either with respect to the succession of perception or to time itself.
5. Hence, the necessary connection can only happen through a priori connecting concepts, i.e., categories (*CPR*, B219).

On account of the enumerated presuppositions—namely, that experience requires a necessary connection of perceptions, which can neither be reached by the synthesis of apprehension nor with the help of time itself—Kant concludes that this work must necessarily be performed by pure concepts of understanding. In fact, Kant believes that he has already established in the Transcendental Deduction that a necessary connection can only be provided by the application of pure concepts. Because a necessary connection is required here and nothing else can yield it, Kant draws the conclusion that only pure concepts can establish the required rule in the temporal determination. Thus, in view of the temporal succession of the apprehension of perception, the individual analogies are concerned with the three modi of time: permanence, succession and simultaneity (*CPR*, A177/B219).

We are now equipped to turn to the First Analogy of Experience, which is concerned with only one of these modes: permanence. In the version of 1781, the principle reads as follows:

All appearance contains that which persists (substance) as the object itself, and that which can change as its mere determination, i.e., a way in which its object exists (*CPR*, A182)

Particularly remarkable in the 1781 version of the principle is the determination of substance that is already known from Kant's pre-critical philosophy as an object itself.<sup>34</sup> Kant opposes this object with the transitory that can only exist as a determination of the object. The idea seems to be that there is an object, which is a substance, and that this object has variant determinations. These determinations are what is conceived of the object. In light of this characterization of substance, it is not surprising that some have conceived of this substance as a Lockean substance, viz. as an unknown bearer of changing qualities.

However, according to the version of 1787, the principle reads as follows:

In all change of appearances substance persists, and its quantum is neither increased nor diminished in nature. (*CPR*, B224)

At first sight, the B-version seems to assert something completely different than the A-version. For now, Kant speaks about a permanent substance whose quantum is invariable. This substance is no longer a concrete object and, in fact, it cannot be a particular object, as we will see in what follows. Kant leaves open at this stage what he understands by substance, whose quantum can neither be increased nor diminished in nature. It is therefore important to notice that Kant does not conflate the First Analogy with the principle of conservation of matter, which he later established in the metaphysical foundations of science. The latter is a metaphysical principle that presupposes the transcendental principle established in the First Analogy. We will return to this point later. Let us first consider the argument provided in the First Analogy. Just as in the exposition of the argument of the General Principle of the Analogies, I concentrate on the B-version, which, in my opinion, differs only in detail particularly with respect to its more precise form from the version provided in A. I reproduce the different premises of the argument in order to take up the issues with which I am chiefly concerned. The major premise is the following:

All appearances are in time, in which, as substratum (as persistent form of inner intuition), both simultaneity as well as succession can alone be represented. The time, therefore, in which all change of appearances is to be thought, lasts and does not change; since it is that in which succession or simultaneity can be represented only as determinations of it. (*CPR*, B224-225)

The permanent form of all appearances, insofar as they are perceived, is time, which is the form of the inner sense. From this argument, it immediately follows that every possible intuition is in time. Kant has argued for this point in the Transcendental Aesthetic; thus, he can take it here as well founded. A necessary condition for the temporal order of appearances, however, is that time itself does not change. Hence, time itself must be constant in some way. As it will later turn out, the constancy Kant has in mind here is its constant flux, though this matter need not concern us here. What is more important is another characterization put forward by Kant, who speaks of the permanent form of inner intuition as a substrate of appearances. Let us keep that in mind and turn to the next (minor) premise: Now time cannot be perceived by itself. (*CPR*, B225)

Here, as in the General Principle of the Analogies, the determination of the imperceptibility of time is a crucial point of the argument. This is, so to speak, the central stage of the argument in which the following conclusions are grounded. Heidegger calls this premise the actual hinge of the argument. It is clear that, first of all, this premise establishes a negative condition that must hold so that the necessity of the application of the categories becomes visible. Otherwise, the order of appearances could be determined in view of time itself. Kant then draws the conclusion:

Consequently it is in the objects of perception, i.e., the appearances, that the substratum must be encountered that represents time in general and in which all change or simultaneity can be perceived in apprehension through the relation of the appearances to it. However, the substratum of everything real, i.e., everything that belongs to the existence of things, is substance, of which everything that belongs to existence can be thought only as a determination. Consequently that which persists, in relation to which alone all temporal relations of appearances can be determined, is substance in the appearance, i.e., the real in the appearance which as the substratum of all change always remains the same. Since this, therefore, cannot change in existence, its quantum in nature can also be neither increased nor diminished (*CPR*, B225)

Let us briefly recall the key points of the foregoing premises. According to the major premise, time is a type of substrate of appearances. After the second premise, time is itself imperceptible. However, a definite determination of time is a necessary condition of experience. Therefore, this substrate must be found in the objects of perception; that is, it must lie in the appearances. Only with respect to this substrate change and the simultaneity of appearance are representable on account of their relationship to this substrate in apprehension. Now, if one recalls the above-given determination of the schema of substance, according to which the substance is ‘the persistence of the real in time, i.e., the representation of the real as a substratum of empirical time-determination in general, which therefore endures while everything else changes’ (*CPR*, A144/B183) it becomes clear that the substrate in the appearances of which Kant is speaking here can be identified with the category of substance in its schematized form. Kant concludes from this, according to the method of analogy, that there must be an absolutely permanent substance in all appearances that, as a substrate, grounds every possible change. From absolute permanence, however, follows immediately its identity at any given time and consequently the conservation of its quantum. Therefore, the conservation of substance is a consequence of the absolute permanence of substance, which in turn is necessary to guarantee the representationality of the unity of time.

Let us now attempt to sketch the whole picture. First, notice the peculiarity emphasized by Kant that the power of judgement determines a priori the case of the application of the pure concepts of understanding under their sensual schemata.<sup>39</sup> The results of these determinations a priori are the Pure Principles of Understanding, which are synthetic judgements a priori.<sup>40</sup> The Dynamic Principles, however, are only concerned with *Dasein*. This argument again requires a special method, namely, the inferential rule of analogy. We illustrated this method by appealing to the *Jäsche Logic*. Kant also briefly touches upon this method in the General Principle of the Analogies, where he emphasizes that the analogies are not constitutive but only regulative in their use. Thus, in the analogies, the power of judgement extrapolates from certain given qualities, whereby things of the same kind agree with one another, to other things of the same kind insofar as they all fall under one principle. The General Principle of the Analogies, however, claims that experience requires a necessary temporal succession in the synthesis of apprehension. This necessary temporal succession cannot be provided by time itself or by perception. Therefore, this necessary succession can only occur on account of a priori unifying concepts, the categories. However, as we have seen earlier, categories can only be applied under their sensual restricted usage, i.e., their schemata. For this reason, in the First Analogy of Experience, which is devoted to the temporal mode of permanence, Kant is entitled to conclude –with respect to the type of inference according to analogy– from the application of the category to a single intuition and thereby to all possible intuitions. Notice that two functions of the power of judgement are involved in this spontaneous act of understanding: first, the inference on account of analogy and second, the determination of a single object of intuition by the application of the schematized category of substance. Both functions are closely intertwined, for only because of the presupposed unity of experience is it possible to apply the category in its determinative function. For this reason, the Transcendental Principles a priori are the conditions that must apply so that the categories can be applied. Thus, there is one application of the category to a single intuition and, at the same time, the extrapolation from this single intuition to all possible intuitions. Thus, the power of judgement is involved in two distinct actions: one determining (by the application of the category) and one inferring by analogy, and both take place at the same time.

Two items, however, need special attention. First, one must keep in mind that the leading principle of the whole procedure is that a unitary experience can only be realized by the application of the categories under their sensual schemata. Second, it is crucial to see that judgement has two functions: determining and reflecting. On account of the first determining function, the category of substance is applied to a single intuition. On account of the second function, the power of judgement infers from this single case of applying the category under its sensual schema to all possible intuitions.<sup>41</sup> Hence, all appearances contain the permanent as the object itself, i.e. individual substances which are the result of the determinative application of the category of substance and one unitary substance, which, on condition of its absolute permanence, can neither be diminished nor increased, if any experience is possible at all. This second substance cannot result from a determinative application of the category of substance by the power of judgement but only from the reflecting function of the power of judgement. However, this second unitary substance is a necessary condition of the unitary determination of time and hence a necessary condition of experience.

However, at the same time, Kant made substance a category of pure understanding and assured substance thus a fundamental role in his critical system. After all the application of his concept of substance, i.e. the category of substance, under its sensual schemata is a necessary condition of experience that lays the groundwork for a new metaphysics and physics of nature. This paradoxical result expresses very nicely the accomplished critical revision of classical metaphysics. Whether this enterprise was successful in the end, is a different story that must be told elsewhere. For, once again, it was not the aim of this paper to determine whether the Kantian approach faces fundamental difficulties, for instance, concerning the ideality of space and time as subjective forms of intuition or Kant's Schematism. Nor was it the aim of this paper to ask whether it makes sense with respect of the category of substance to determine unity regarding temporal persistence. These problems surely require further investigation. Instead, this paper aimed to shed light on the function of the category of substance in transcendental idealism in order to counter widespread misunderstandings.

## **5.8. The idea of absolute substance: why the concept of substance cannot be rejected in Metaphysics.**

The discussion of substance and its properties is much more complex than the discussion of eternal truths, but once all the terms are sorted out it is not that difficult to grasp. There are three terms that are crucial to Descartes' understanding of basic ontology: substance, principal attribute, and mode. A substance is just a self-subsisting thing. A principal attribute is a special property of a substance, the property that makes that substance the kind of substance that it is. ("Principal attribute" is just another way of saying "essence".) A mode is any other property of a substance.

Descartes defines a substance as a thing that does not depend on anything else for its existence. That is to say, substance is a self-subsisting thing. Strictly speaking, then, only God is really a substance, because everything else depends on God for its existence (according to Descartes' picture, not only does God initially bring us into existence, but he must continually recreate us at every instant). More loosely speaking, though, anything that depends only on God for its existence counts as a substance.

The first thing to realize is that according to Descartes there are only three substances in the world: there is God, there is mind, and there is body. Jell-O is not one substance and gold another; both are the same substance of body. Since a principal attribute is the property that makes a substance the kind of substance that it is, there are also only three principal attributes: we have no idea what God's principal attribute is (if he even has one), but the principal attribute of mind is thought, and the principal attribute of body is extension.

The second important thing to realize is that the distinction between substance and principal attribute is only conceptual. That is to say, we have two concepts, (i.e. "principal attribute" and "substance") but these two concepts do not actually correspond to two different things out in the world. There is no such thing as a substance without its principal attribute. Body cannot exist without extension, and mind cannot exist without thought. This makes perfect sense when you consider that the principal attribute makes the substance what it is. How could a substance exist, Descartes asks, without being any particular kind of thing? It is impossible. In fact, not only can a substance not exist without its principal attribute (a metaphysical claim), a substance cannot even

be clearly conceived without its principal attribute (an epistemological claim). How can you clearly conceive of something without clearly conceiving what sort of thing it is? The relationship between principal attribute and substance, then, is extraordinarily intimate.

The strong conceptual relationship between a substance and its principal attribute is what Descartes draws on in order to prove that the essence of mind is thought and the essence of body is extension. The proof of these claims rests on an unstated premise: P is the essence of S, if and only if I can conceive of S attributing only P to it. We can understand why Descartes would feel justified in asserting this premise given the strong conceptual relationship between a substance and its principal attribute. The principal attribute (or essence) is just that property that allows you to conceive of the substance. Whatever property that, all by itself, allows you to clearly conceive of the substance, then, must necessarily be the essence of that substance.

A mode, on the other hand, is much less intimately connected to a substance. A substance could exist without any particular one of its modes (though it could not exist without any modes at all). For instance, a substance could exist without being square, but it cannot exist without being shaped. A mode is actually just a particular way of *being* the principal attribute. A principal attribute is something determinable, i.e. the property of extension or the property of thought and a mode is a determinate way of being extended or thought for instance, square is a way of being extended and imagining a unicorn is a way of being thought.

Descartes' analysis of substance and principal attribute is probably the most important section of Part I. It is in defining this terminology that he lays the groundwork for his entire physics, by establishing the subject matter of that science. In defining physical substance entirely in terms of extension, Descartes is ensuring that the physical sciences can be conflated with the study of geometry. All properties of substance can be explained simply by appealing to the properties of geometric figures. It is in this discussion that we see Descartes at the height of his offensive attack on Scholastic philosophers.

Like the Scholastics, Descartes claims that substances are the most basic units of existence. Where he diverges is in claiming, first, that there are only three substances and, second, that substances and their essences have such a tight connection. According to the Scholastic view there were

numerous substances, all composed of various combinations of the four elements. The essence of a substance was the property that made the substance the sort of substance that it was, but aside from that important role it was no different from other properties. The further properties of a substance did not have any connection to the essence. For example, according to the Scholastics the essence of man was his rationality. However, man could also have qualities such as "pale" and "tall" that had nothing to do with this essence. In addition, according to the Scholastics, substance could survive the loss of its essence, though naturally not as that same sort of substance. So, for instance, if a man lost his rationality he would cease to be a man, but he would not cease to be a substance. He would just be a different sort of substance. It is by strengthening the connection between essence and substance that Descartes is able to so reduce the number of substances in the world. If a substance cannot be conceived of without its essence, there are very few candidates for essence and, correspondingly, few for substance. The only things we cannot conceive of are the logically impossible.

### **5.9. 17<sup>th</sup> Century theory of Substance as a Perspective**

Looking back, we might see Descartes, but especially Spinoza and Leibniz, as working through the metaphysical consequences of holding that substances are ultimate subjects. More generally, we can see these theories of substance as different ways of trying to reconcile the notion of substance as an ultimate subject with a commitment to God's existence and independence.

Epistemological considerations led prominent late 17th and 18th century philosophers to abandon such questions, and to give substance a much more modest position in their metaphysical systems. John Locke, for example, holds that there are substances and that they are ultimate subjects, but is wary of drawing any further conclusions. As Locke famously claims, "if anyone will examine himself concerning his Notion of pure Substance in general, he will find he has no other Idea of it at all, but only a Supposition of he knows not what support of such Qualities...commonly called Accidents" (EHU 2.23.2).<sup>169</sup>

David Hume goes further claiming that it is not within our power to know the ultimate structure of reality, and further that our idea of a substance as a subject is merely the result of our

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<sup>169</sup> Wiggins., "Substance", in *Philosophy 1: a Guide Through the Subject*, A. C. Grayling (ed.), Oxford: Oxford University Press, 214–49

imagination: “The imagination is apt to feign something unknown and invisible, which it supposes to continue the same under all these variations; and this unintelligible something it calls a substance” (Treatise 1.4.3).<sup>170</sup> Humean skepticism about substance and about metaphysics more generally survives in one form or another to the present day.

Of course not everyone agrees with this tradition, and the nature of substance has been a question that many contemporary philosophers have taken up although from different starting points than Descartes, Spinoza, and Leibniz. Unlike the 17th century, in contemporary philosophical use the term ‘substance’ is not necessarily intended to refer to the ultimate constituents of reality (although it may). Rather the term is usually taken to refer to what are sometimes called “concrete particulars”, that is, to individual material things or objects. Furthermore, among contemporary philosophers there is nothing like the consensus that we find among the 17th century philosophers regarding ontology, dependence, reality, and God. Thus, it is commonly held that there are categories of reality beyond substance and mode (or property), perhaps most prominently events or processes. Many philosophers have questioned both the relation of inherence and the connection between inherence and ontological dependence. Bundle-theories of substance, for example, deny that substances are subjects at all they are merely bundles or collections of properties. Furthermore, most contemporary philosophers deny that it makes sense to talk about degrees of reality: Things are either real or not. Last, and perhaps most obviously, contemporary philosophers no longer agree that God exists and is a substance.

All non-relativist philosophical systems acknowledge substances in the most generic sense of that term, for that is only to acknowledge that there are some fundamental entities in their system. Most, if not all, philosophers acknowledge that we cannot function without using substance concepts in the narrower sense, for the notion of an enduring particular or individual substance is essential to our making sense of the world as we live in it. But three things at least remain controversial. First, it is disputed what kinds of concepts need to be deployed to characterize these enduring things: are they the rich variety of traditional or ‘Aristotelian’ substance concepts, or will various ways of identifying things simply as physical bodies with certain characteristics do the job? Second, it is still unclear how far our substance concepts purport to reflect a component in reality (real or imagined) over and above the bundle of properties that constitute its intelligible

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<sup>170</sup> Ibid. p.221.

aspects. Third, the unclarity of the connection between *what a thing is* and *what it does* leaves unresolved the degree of interdependence between substance concepts and notions of purpose and final causation.

### **5.10. Substance and teleology**

There is one mark of substance that was important to Aristotle that we have not discussed. This is the connection between substance and teleology; that is, the notion that *what something is* is intimately connected with its natural purpose, end or function. The association with teleology does not naturally recommend itself to the modern mind. Wiggins, for example, says that “it would have been both possible and advantageous for Aristotle to distance [his account of substance] from his concern with final causes...” (2001: 80). The concern with teleology is presumably thought to be too closely connected with Aristotle’s theology, or the idea that it is divine design or intelligence that gives natural objects their ends. Nevertheless, it is not easy for an Aristotelian to make a complete break from teleology. Teleology is what distinguishes living things that act for purposes and have organs with functions from lumps and rocks, and it is the former that Aristotelians see as the paradigm substances. It is no accident, therefore, that artefacts, which are generally defined by their function, are often cited as good illustrations even if not paradigm cases of substances. So we have a tension developing. On the one hand, lumps and rocks are good paradigm cases of our notion of natural enduring objects. But they are bad cases of objects with purposes or ends. Artefacts are good cases of things with purposes, and are reasonably enduring, but are not natural objects. Living things come near to getting the best of both worlds. They are natural and enduring, and they have purposes, in the sense of natural goals in their behavior. Although, according to the modern perspective they do not possess a final end, unlike artefacts: a knife is for cutting, but there is nothing a dog is *for*, though it has many ends *en passant*.

This teleological approach to substance could be expressed as follows.

- viii. The substances in a given system are those entities crucial from the teleological or design perspective of that system. ‘Crucial’, here, means that other things exist either to constitute them or to provide a context of operations for them.

The tension between the teleological mark of the substantial and the others we have considered might make it useful to distinguish between *descriptive ontological priority* and *teleological*

*ontological priority*. The former is interested in a purely descriptive account of what exists, and it, therefore, rates as the substances those entities that a purely descriptive science would count as basic. The latter, however, counts as substances those things that are deemed fundamental because of the role or function they play in the world. This contrast is most plain in the case of artefacts. An artefact is made of its parts, and, in a sense, they are more basic than it because they constitute it. But if there were not artefacts of the appropriate kind, those parts would never have come into existence: if there were no motor cars, there would be no steering wheels or accelerator pedals. Thus, like Aristotle's severed finger (*Metaphysics* 1035b 23–5), these latter do not count as substances. But it is not true that the parts would not exist without the whole if one takes *parts* right down to the natural elements and atoms that make the artefact. Then one has a conflict about what is deemed basic between the descriptive and the teleological criteria. It is to avoid this conflict that Aristotle rejects atomism, by allowing that there are no true entities, only stuffs, more basic than those he wants to treat as substances by the criteria of teleological significance. He avoids having to face the problem that one set of things is basic or substantial descriptively, namely the atoms from which everything is constituted, and another set of things the macroscopic objects of our ordinary lives are substances by the criterion of teleological importance. Because matter is stuff, not individuals, the objects that are teleologically important are also the descriptively basic objects, because what they are made of are not objects at all.

It could be argued that atomism can be reconciled with treating the things that are significant for us as substances only if one thinks of the atoms as existing only in order to constitute such objects. This would be so if God had created the atoms so as to construct macroscopic objects from them, just as we create the parts of artefacts only for the sake of the artefacts. It might be argued that the same objective could be reached without theism if there is irreducible teleology in nature that gives significance to the rest. Thomas Nagel's view in his (2012) either adopts or comes close to this position. But Nagel's position seems to challenge natural science within its own realm, whereas the "theological artefact" model does not. It is uncontroversial that an artefact, such as a clock, can be both mechanical and defined as the kind of thing that it is by its function. Applying this model to nature as a whole would involve bringing theology into Aristotle's metaphysics more directly than he, or indeed Aquinas, intended. The notion that an object is what it is because of its use is found in Heidegger but this is the use to which we put objects, not a divinely ordained teleology; Heidegger's theory imports the subjective perspective implicit in phenomenology, and this runs

counter to Aristotle's objectivism. If, however, one takes the teleology to be designed into creation, this subjectivism is eliminated, and if one thinks that teleology is the key determinant of substantial identity, as with artefacts, then one has preserved the doctrine of substance, rather than replacing it by a mere theory of function. This would have the consequence that if the designer could change the purpose of an object whilst leaving it physically unchanged as we do if we use a knife as a screwdriver then its substantial identity will change (Schillebeeckx, 1968, Dummett, 1987, Robinson, 2016)

## **Conclusion**

### **Introduction:**

In a nutshell of my thesis is a chronological way of understanding of timeline of theory of substance. To begin with, why 17<sup>th</sup> century? 17<sup>th</sup> century was a period of the growth of scientific enquiry revolution- a time of fundamental scientific change in which traditional theories were either replaced by new one's or radically transformed.

Why theory of substance is important in metaphysical discussions? Because, for Aristotle it is the subject-matter of 'what is being?' to explain further 'what is substance? Is like which fits as 'what does reality comprise? For Leibniz 'the consideration of substance is of the greatest importance and fruitfulness for philosophy'.

Just as there is no sunlight without the sun, so nothing can exist the cooperation of god, without that cooperation all created things would go to nothing. But a created thing may still be called as substance; for by this. We mean only that it is sort of thing that can exist independently of any other created thing. As a result of each view of the universe, as seems from a certain position, is a substance which expresses the universe from the perspective...each substance is a like a world apart, independent of every other thing, except for God.

From Aristotle to Kant and beyond, the concept of a substance has played a deservedly prominent role in the attempts of metaphysicians to characterize reality and to think reflectively about the terms of such a characterization, any attempt to provide an analysis of substances should be informed by a critical awareness of the efforts of these great philosophers of the past to characterize the concept of substance.

### **Objectives of the study.**

The main objective of the thesis is why the idea of substance is cannot be rejected in metaphysics with special reference to the Rationalists and Kant. Primarily this thesis deals with these following objectives as such:

**First one**, the underling concepts of history of the substance, which is an exposition of root level understanding of the origin.

**Second one**, Descartes understanding of substance which is an inquiry to Aristotelian traditional framework of theory of substance.

**Third one**, The Spinoza's perspective of the causes of the Descartes error's in understanding of the substance.

**Fourth one**, The Leibnizian inquiry into the Spinoza's paradoxes of the substance.

**Fifth one**, where I want to throw a light on approaches of the Empiricists on substance along with Kant's special reference to the understanding of metaphysics of substance.

In the following paragraphs, I will summarize my chapters and thesis.

### **Chapter One: Background the concept of substance:**

In the first chapter, I have explored through the historical background of the study, which is a prominent thing to establish my research question. It seems, in as a whole, that there are at least six overlapping ideas that contribute to the philosophical concept of substance. Substances are characterized as

- i. being ontologically basic substances are the things from which everything else is made or by which it is metaphysically sustained;
- ii. being, at least compared to other things, relatively independent and durable, and, perhaps, absolutely so;
- iii. being the paradigm subjects of predication and bearers of properties;
- iv. being, at least for the more ordinary kinds of substance, the subjects of change;
- v. being typified by those things we normally classify as objects, or kinds of objects;
- vi. being typified by kinds of stuff.

That the Kantian tradition adds a seventh mark of substance:

- vii. Substances are those enduring particulars that give unity to our Spatio-temporal framework, and the individuation and re-identification of which enables us to locate ourselves in that framework. I shall introduce a notion grounded in Aristotle's account, but

which has not naturally found a place in the earlier conversation, namely the connection between substance and teleology. This can be expressed as:

- viii. The substances in a given system are those entities crucial from the teleological or design perspective of that system. 'Crucial' means that other things exist either to constitute them or to provide a context of operations for them.

Different philosophers emphasize different criteria from amongst this list, for reasons connected with their system as a whole. One could plausibly say that an account is intuitively more appealing, the more of the criteria it can find a place for. Probably, the Aristotelian tradition comes nearest to doing this.<sup>171</sup>

Many of the pre-Socratic philosophers in fact had a concept of substance rather like that above attributed to chemistry, that is, their emphasis was on criterion (VI) above. They thought, that is, that the being of the universe consisted in some kind or kinds of stuff. 'Thales', for example, thought that everything was essentially water, and 'Anaximenes' that everything was a form of air. For 'Anaximander', the 'stuff' in question was indeterminate, so that it could transmute into the various determinate stuffs such as water, air earth and fire. By contrast, atomists such as 'Democritus' took those determinate particular objects they called 'atoms' to be the substance of the universe. Atoms are objects in our ordinary sense, though they are not our ordinary objects, they are not dogs and cats or tables and chairs. They are the subjects of predication, but they do not change their intrinsic properties. Classical atoms are, therefore, strong instances of (i) and (ii), but somewhat deviant cases of (iii) and (v).

Next coming to the account of Aristotle is much crucial for to discuss, because all these 17<sup>th</sup> century philosophers are made their discussions based on original idea of Aristotelian idea of substance. The substance theory of Aristotle underlies his entire philosophy. Substance theory is the belief that substances are the ultimate things in the universe. The universe at rock bottom is not made up of elementary particles but substances. This is completely different from our modern view of the world. Aristotle defends this position in his books *Categories* and *Metaphysics*. His defense is long and detailed. Without an understanding of Aristotle's logic, such a defense cannot even be

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<sup>171</sup> *The Complete Works of Aristotle: the revised Oxford translation*, in 2 vols, ed. J. Barnes, Princeton: Princeton University Press. 1984

understood today. Aristotle divides the world into two categories: substances and accidents-substances are the most fundamental, he indicates that the investigation of being must start with the study of substance because non-substances depend for what they are on substances. A primary substance is something that can be understood through itself, without reference to any other basic entities. Aristotle's theory of substance has been widely discussed, but attention has focused more exclusively on his doctrine of form than of matter, although matter has not been neglected, the notion remains deeply puzzling. The puzzle about the matter and composite substances lies at the intersection of his theory of substance and his theory of change. In the metaphysics, Aristotle preserves the criterion of ontological priority but emphasizes a different criterion; conceptual priority.

To conclude about the Aristotle conception of Substance, is that Substance can be most directly defined as what something is. Man is a substance; a horse is a substance and a rock are a substance. Going in depth of the substance one is introduced to secondary substance which is when something is in essence, for example man, has certain attributes to accentuate a man's individuality. To say a man is just a man is very general and giving these attributes makes the simple man an individual man. 'Man' is a common noun, so it does not refer to a property of the subject but rather the class of which the subject is a member. That which is said of but not in a subject is the predicate term in a subject-predicate sentence which employs the 'is' of identity, rather than of predication. The negative criterion (neither in a subject nor said of a subject) of the categories tells us only which things are substances. We can know that a particular something is a substance but we have to define what makes this a substance. A substance can receive contraries which alter substances to change, move, grow etc. Individual substances, apart from their accidentals/qualities are simple in essence. Aristotle's view on the nature of reality is "robustly down-to-earth" in comparison to Plato's. Plato believed that we are an imperfect model of the perfect form: God. Instead of analyzing the universal structures from top to bottom like Plato, Aristotle analyses them from bottom to top. He believes that each person has particular characteristics that make them who they are and there never is a standard of what they should become. Aristotle challenged Plato's beliefs because he was unable to comprehend how every man was placed on the same level below the ideally perfect but have different physical and mental characteristics. Though the theory is meant to establish concrete standards for the knowledge of reality, Aristotle considers it troubled with

inconsistencies and believes that the concept of reality depends upon all form's connection to other elements.

## **Chapter Two: Descartes conceptual understanding of Substance.**

In this chapter, I would like to explain how the Modern Philosophy is started looking at the concept of Aristotelian notion of Substance, which Descartes felt that, it's a failure to understand the nature of reality in Aristotle's notion of substance. To understand better, in a nutshell Descartes notion of substance is very simple to understand if you thoroughly follow the Meditations. He desired that philosophy and the sciences should have the foundations equally firm; and we should settle for nothing less in them than 'the certainty of demonstration and the evidence of reasoning' of which geometry affords. He explicitly says that in seeking a method by which to achieve true knowledge in philosophy, he sought a method which comprised the advantages of logic, geometry analysis and algebra, and he took these models those long chains of reasoning ...of which geometers make use.<sup>172</sup>

Two points emerge from this, the first programmatic, and the second methodological. The programmatic point is that Descartes felt it was necessary to achieve the same degree of certainty in philosophy and the sciences as is required in mathematics, if the results achieved in philosophy and the sciences are to have the status of genuine knowledge. The second point to be made is methodological. Seeking a method for philosophy analogous to that employed in such mathematical disciplines as geometry, in order to achieve a comparable sort of certainty, Descartes arrives at the four 'percepts; which he states in Discourse. The first is 'to accept...nothing more than what was presented to my mind so clearly and distinctly that I could have no occasion to doubt it.' The second is 'to divide up each of the difficulties which I examined into as many parts as seemed requisite in order that it might be resolved in the best manner possible.' The third is 'to carry on my reflections commencing with objects that were most simple and easy to understand, in order to give rise little by little...to knowledge of the most complex.' The fourth is 'at the end to enumerate and review the matter thoroughly so as to 'be certain of having omitted nothing.' The

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<sup>172</sup> Classical Modern Philosophers: Descartes to Kant by Richard Schacht, Routledge London and New York, 1984 p.6

crucial notion here is that of the ‘clear and distinct.’ For what this method amounts to is restricting oneself at the outset to that alone which one perceives clearly and distinctly, and making no subsequent step which does not clearly and distinctly follow from what has already been thus firmly established.

### **Mind and Body:**

Descartes defined substance as ‘an existent thing which requires nothing but itself in order to exist.’<sup>173</sup> Based on this definition, if we understood in a strict and literal sense, it applies to God alone. Descartes applies the word primarily to God then secondly and analogically to creatures. This procedure is in accordance with his professed intention of going from cause to effect rather than the other way around. However. If we keep God aside for time being and think only of substance in its application to creatures, we can say that there are two kinds of substances and the word is predicated in a univocal sense of these two classes of things. Created substances such as mind and body, are may be conceived under this common concept, for they are thing which need only the concurrence of God in order to exist. Now, what we perceive are not substances as such but rather attributes of substances. And inasmuch as these attributes are rooted in different substances and manifest the latter, they give us knowledge of substances, but not all attributes are on equal footing. For ‘there is always one principal property of substance which constitutes its nature and essence, and on which all the others depend.’<sup>174</sup> The idea of substance as that which needs nothing else is a common notion, and it will not serve to differentiate one kind of substance from another. For more clear and distinct understanding, I will further explain the discussions on Meditations on the first philosophy in which the existence of God and the distinction between mind and body are demonstrated. It is important to keep in mind that Descartes sets same standards in his discussion of ‘I’ that has been found to exist, as he does when he first raises the question of what we can know: namely, complete certainty and indubitability. He says: I shall consider anew what I believed myself to be; and of my former opinions I shall withdraw all that might even in a small degree be invalidated by the reasons I have just brought forward, in order that there may be

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<sup>173</sup> *Meditations de prima philosophica*, G. LEWIS, Paris, 1943, 6, A.T., VIII, 89, cf, IX, 71

<sup>174</sup> *The philosophical works of Descartes*, translated by E.S. Haldane and G.R.T. Ross-I, A.T., VIII, 25, CF, IX B, 48.

nothing at all left beyond what is absolutely certain and indubitable. Descartes began with a commonplace understanding of his nature much like that which most people today have. We talk about ourselves as having bodies and as having minds; and we tend to think of ourselves as some sort of unity of the two. So, Descartes says: In the first place, I considered myself as having all that system of members composed of bones and flesh which I designated by the name of body. In addition to this I considered that I walked, that I felt, and that I thought, and I referred all these actions to the soul: but I did not stop to consider what the soul was. Unlike some philosophers, Descartes does not end up reducing either the mind to the body or the body to the mind. Rather, he maintains that we do indeed have both minds and bodies and that the two are *not* ultimately one and the same thing, but rather are radically and irreducibly different *sorts* of thing, which exist in an intimate union. This position which may or may not still be part of the commonsense view, but which certainly is the traditional Christian view is customarily referred to as *dualism*. And Descartes goes one step further, in effect saying that this union is *not* a partnership of equals; for while he insists upon the reality and irreducibility of the body, he also holds that the body is only something I *have*, whereas the mind or soul and that alone is what I *am*. Or at least it is his contention that the 'I' which purportedly has been shown to exist by means of the *cogito* is essentially mind and mind alone, separate and distinct from the body, and capable of existing independently of it. His conclusion to this effect is based on several assumptions, one of which has already been mentioned. First, it is inconceivable to him that there could be an activity without an agent, thought without a thinking subject or as he often says, a thinking thing or substance. Second, he assumes that mere matter, or extended substance, is incapable of thought. If something is mere extended substance, it seems self-evident to him that one could not say of it that it thinks or imagines or conceives or wills. And conversely, it seems self-evident to him that something which has been shown to think cannot be a mere extended substance, but rather must at a minimum be a thinking substance as well.

Third, he assumes that, if two things can be *conceived* independently of each other, then it is *possible* for them to *exist* independently of each other; that if they can be conceived independently of each other, then *they are* different from each other. In his words, 'it suffices that I am able to apprehend one thing apart from another clearly and distinctly in order to be certain that the one is different from the other'. These are his basic assumptions; and if one grants them, then his

argument is quite sound. It runs as follows: From the fact that I think, it follows that I exist. But it only follows that I exist *as a thinking thing*, or a conscious subject. For though I may think that I have a body, it is conceivable that I am deceived about this. It is possible, for example, that I in fact am nothing more than a thinking thing, but that the evil genius or some unknown power within my thinking being causes me to have those experiences on the basis of which I conclude that I am also an extended thing, i.e., have a body. So, it does not follow with complete certainty from the fact that I think, that I have a bodily as well as a conscious existence. And since this does not necessarily follow, and since Descartes will ‘not now admit anything which is not necessarily true,’ he concludes: ‘to speak accurately I am not more than a thing which thinks, that is to say a mind or a soul...’ (152). It is possible for me to conceive of a thinking thing or substance which is not extended, i.e., has no bodily existence; there is nothing self-contradictory about such a notion, and there is nothing in the notion of a thinking thing which presupposes extended existence. My senses tell me that I have an extended existence; but they are not to be trusted, for reasons discussed in the First Meditation, and again in the Sixth. In short, it is not part of the notion of a thinking thing that it must also be extended. And since it is possible to conceive of a thinking thing which is not an extended thing, and since ‘it suffices that I am able to apprehend one thing apart from another clearly and distinctly in order to be certain that the one is different from the other,’ it follows that the ‘I’ I have discovered to exist is essentially a thinking thing, period. Or, in Descartes’s words: Therefore, just because I know certainly that I exist, and that meanwhile I do not remark that any other thing necessarily pertains to my nature or essence, excepting that I am a thinking thing, I rightly conclude that my essence consists *solely* in the fact that I am a thinking thing, or a substance whose whole essence or nature is to think. It *may* be *true* that I have a body; and in fact, Descartes goes on to argue that at least in this world it *is* true that I have a body. ‘Yet,’ he says, because, on the one side, I have a clear and distinct idea of myself inasmuch as I am only a thinking and unextended thing, and as, on the other, I possess a distinct idea of body, inasmuch as it is only an extended and unthinking thing, it is certain that this I...is entirely and absolutely distinct from my body, and can exist without it.

So much for the argument. It is, as I have suggested, a valid argument, *if* one grants that the ‘cogito’ establishes that I exist as a thinking subject, and *if* the assumptions I mentioned are also allowed. If the argument is to be criticized, therefore, it is Descartes’s assumptions, rather than the logic of

his reasoning, which must be examined. I have already mentioned the kinds of questions which might be raised with reference to the *cogito*. It remains to say a word about his other assumptions. And here it might be said that while Descartes professes in the First Meditation to make a clean sweep of all of his earlier opinions, and to doubt everything which it is possible to doubt, he in fact has not done so. For one might wish to suggest that each of the assumptions I mentioned at the very least stands in need of justification and is not just self-evidently true, and therefore should be placed in question along with the other things he *does* place in question. And of course, if one places *them* in question, then the argument does not go through, and one is left with the bare '*cogito, ergo sum*,' if even that.

Let me now turn briefly to Descartes's picture of the way in which the mind and the body are related, within the context of his view of them as essentially distinct substances, the one an unextended thinking substance, and the other an unthinking, extended substance, each capable of existing independently of the other. Descartes regards the body as a kind of machine; he explicitly uses the term 'machine' to characterize it at several points in the *Meditations*. The body is a thing essentially similar to other things in the world, the existence and nature of which are established along the same lines and at the same time as are those of other things in the world. These two substances mind and body are, he allows, 'very intimately conjoined'. When we talk about the nature of 'man', it is to this conjunction of a mind and a body that we are referring; so, Descartes speaks of 'the nature of man, inasmuch as it is composed of mind and body'. It is not just an accident that I my mind happens to be connected with a body; in this life, at any rate, God has ordained it that I do not exist except as conjoined to a body.

But it should be obvious that there is something of a problem here, of which Descartes is aware, and with which he tries to deal. If a human being is the conjunction of these two distinct substances, one extended but unthinking, and the other thinking but unextended, and if they affect each other, as Descartes recognizes they do, how is it possible that they affect each other? How does something that goes on in the mind bring about a bodily movement? And how does something that affects the body result in something happening in the mind? The problem is particularly acute because of Descartes's characterization of the two in terms which explicitly exclude the fundamental qualities of the other. His famous or infamous solution is rather ludicrous, he holds that the two have a point

of contact in the pineal gland, in which the mind gives subtle pushes to the organism which result in nerve impulses and ultimately in bodily movement, and in which subtle physical impulses are transmitted to the mind. This solution is rendered untenable by the fact that nothing but a machine can move a machine; and that if the mind really is unextended, then nothing the machine does can touch it. Descartes was forced to go to these absurd lengths because he had to account for the interaction of mind and body. If no better account of the interaction can be found than this, however, the fact of interaction would be a virtually conclusive argument against the kind of radical dualism Descartes embraces.

### **The nature and Existence of God:**

Having established to his satisfaction *that* he is, and *what* he essentially is (a thinking thing), Descartes sets out in the Third Meditation to extend his knowledge further. But immediately he encounters a problem; for unless he can rely upon his clear and distinct ideas, he *cannot* extend his knowledge further. The hypothesis of the evil genius has not yet been laid to rest, and the reliability of his clear and distinct ideas has not yet been established. So, Descartes says, I must inquire whether there is a God as soon as the occasion presents itself; and if I find that there is a God, I must also inquire whether He may be a deceiver, for without a knowledge of these two truths [i.e., that God exists and is not a deceiver], I do not see that I can ever be certain of anything [i.e., anything other than that I exist and am a thinking thing].

Descartes thus maintains that his entire enterprise of a reconstruction of our knowledge depends for its success on his ability to prove that God exists and is not a deceiver. How he supposes this will enable him to succeed in carrying out this program is something I will discuss later. First, however, I will consider his arguments concerning the existence and nature of God. It is essential to his program that these arguments be absolutely certain and indubitable proofs; for nothing which follows from the supposition of God's existence and goodness can be certain unless God's existence and goodness can be shown to be certain. And it is certainty in the whole of our knowledge that Descartes is seeking. This is why, much to the displeasure of some people like Kierkegaard, and Descartes places so much emphasis on *proving* God's existence. Descartes offers three such proofs, two in the Third Meditation, and one in the Fifth. I will consider them in the order in which he presents them; and then I will turn to the proofs he gives relating to God's nature. In the first proof, Descartes argues that, by evidence, he is an imperfect being who has an objective

reality including the notion that perfection exists and therefore has a distinct idea of a perfect being (God, for example). Further, Descartes realizes that he is less formally real than the objective reality of perfection and therefore there has to be a perfect being existing formally from whom his innate idea of a perfect being derives wherein he could have created the ideas of all substances, but not the one of God. The second proof then goes on to question who it is then that keeps him having an idea of a perfect being in existence, eliminating the possibility that he himself would be able to do. He proves this by saying that he would owe it to himself, if he were his own existence maker, to have given himself all sorts of perfections. The very fact that he is not perfect means he would not bear his own existence. Similarly, his parents, who are also imperfect beings, could not be the cause of his existence since they could not have created the idea of perfection within him. That leaves only a perfect being, God, which would have had to exist to create and be constantly recreating him. Essentially, Descartes' proofs rely on the belief that by existing, and being born an imperfect being (but with a soul or spirit), one must, therefore, accept that something of more formal reality than ourselves must have created us. Basically, because we exist and are able to think ideas, something must have created us.

### **Chapter 3: Spinoza's understanding of Substance.**

In this chapter, I would like to explain how Spinoza critical analysis of Descartes Substance, which the central focus of this thesis, because I felt Spinoza's view is more radical among the Rationalists. Spinoza's *Ethics*, is one of the most remarkable metaphysical systems in the entire history of philosophy. It is all-encompassing in its scope, and worked out in elaborate detail with the greatest rigor and precision, leaving no loose ends. In these respects, it makes the work of Descartes and Leibniz look feeble by comparison. So, Spinoza, says, 'A means must be devised for improving the understanding and purifying it..., so that it may apprehend things without error, and in the best possible way'. This is his project in the essay *On the Improvement of the Understanding*; the 'method' he discusses there is to be the 'means' he speaks of. In the *Ethics*, he presents the results he achieves by means of it, and their consequences. One should always keep in mind his reason for undertaking the entire enterprise. In his words: love towards a thing eternal and infinite fills the mind wholly with joy, and is itself unmingled with any sadness, wherefore it is greatly to be desired and sought for with all our strength.

Spinoza's philosophical program is at one level similar to that of Descartes and Leibniz, and at another level different. It is different in that, for Spinoza, what might be called 'the existential stakes' are greater than they are for either of the others, even though they too felt that their philosophies were of more than merely theoretical importance.

Spinoza agrees with Descartes and Leibniz that we cannot be said to have any knowledge that is truly worthy of the name unless complete certainty is attainable. To know something is either to know it with complete certainty or not really to know it at all. But under what conditions is complete certainty possible? But certainty is not the only criterion of genuine knowledge for Spinoza. There is also another: if knowledge is genuine, it must be *adequate* to the thing known. It is not enough to see the logical necessity with which one proposition follows from another; one must also have a completely adequate grasp of the natures or essences of the things referred to in them. For example, if you are told that all animals are mortal, and that all men are animals, and that therefore all men are mortal, you may perceive the logical necessity of the conclusion, since you may know that all syllogisms of that form are valid; but your knowledge will be less than adequate if you do not have an adequate grasp of the essences of the things mentioned.

Spinoza agrees with Leibniz in rejecting Descartes's suggestion that we cannot rely upon any of our ideas without a demonstration of their reliability, which Descartes tries to give by proving that God exists and is not a deceiver. Like Leibniz, Spinoza agrees that many of our ideas and in particular, those which derive from sense-experience are not to be taken as certain. But also, like Leibniz, he recognizes that by placing *all* of his ideas in question, Descartes gets himself into a skeptical predicament which he then cannot legitimately get out of; for to do so, he must make use of some of the very kinds of ideas he has placed in doubt. Spinoza holds that both we possess some ideas the truth of which is unquestionable and not to be doubted, or else all genuine knowledge is impossible. And he contends, with Leibniz, that the former is the case. It is simply a fact, in his words, that 'we possess a true idea.'

### **God, Nature and Substance:**

In this section I want to summarize briefly Spinoza's these three concepts which are essential in understanding the Spinoza's Ethics. The first part of Spinoza's *Ethics* is entitled 'Concerning God'; but it might just as well have been entitled 'Concerning Nature,' since for him the two terms turn out to be interchangeable. And it would have been still better if it had been entitled

‘Concerning substance’; for this term is the most basic of the three. Indeed, it develops in the course of the discussion that there is but one true substance, which may alternatively be designated either as ‘God’ or as ‘Nature.’ One might wish that Spinoza had avoided speaking of ‘God’ altogether, since as he points out, this term has associations which must be rejected. He retains the term because the ‘substance’ he conceives to exist does have a significant number of features common at least to the scholastic theological conception of God; and he applies the term ‘God’ to this ‘substance’ because on his view there is nothing else to which to apply it. But he avails himself of it at the cost of no little confusion on the part of anyone who is not careful to keep in mind precisely what he means by it.

To be explained in better way, it is necessary to say a few words about his notion of cause.’ While his use of this term is not completely different from ours, it does differ from our ordinary use of it today to some extent. When Spinoza speaks of cause,’ he has in mind roughly the same thing Leibniz does when he speaks of a ‘sufficient reason.’ What one does when one states the cause’ of something is to explain the fact that it exists and has the character it does. To say that there must be some cause of everything that exists and every state of affairs in the world is to say that there is an explanation for everything being the way it is. Spinoza, like Leibniz and their predecessors, takes it for granted that this is so.

In this connection, he distinguishes conceptually between two classes of things. We can conceive of things whose existence and characteristics and particular states are to be explained in terms of things other than themselves. And we can also conceive of things whose existence and characteristics and states may be explained by reference to themselves alone. Things of the latter sort may be termed *causa sui* causes of themselves; while things of the former sort are not their own causes. Something is *causa sui* only if its existence and *all* of its characteristics and *all* of its particular states follow from its own essential nature. If it is capable of being affected in any way by anything other than itself, or if its existence presupposes the existence of anything else, it is not *causa sui*. Leibniz’s monads satisfied the first of these criteria; but none of them, with the exception of the supreme monad, God, satisfied the second. The other monads were said to have ‘no windows through which anything can either come in or go out’; but their existence was explained by reference to something other than themselves: namely, to God. An adequate conception of a monad, therefore one which said everything needing to be said about it to explain

it completely would be independent of the conception of any other created monad; but it would of necessity refer to the conception of something other than itself that is, God.

Now as has been observed, the central notion in the first part of the *Ethics* is that of ‘substance.’ Traditionally, in philosophy, substances have been conceived as things capable of existing independently of other things as opposed to qualities, for example, which cannot exist simply by themselves. The crucial notion here is that of independent existence. And philosophers’ ideas about what things are and are not substances have varied, depending on what things they have taken to be capable of independent existence, and also on how strictly they conceived ‘independence.’ For example: what about ordinary physical objects? In some loose sense, they are capable of independent existence. Yet they are affected by each other; and many of their particular states and characteristics are the results of their interactions with and relations to other objects. This has led some philosophers to conclude that they cannot strictly be considered substances, since they do not really exist entirely independently of each other.

But if one *really* presses the point, and carries the requirement of independence to its logical conclusion as Spinoza does one must deny the term ‘substance’ to anything which is not *causa sui*. For something cannot be said to be truly independent of everything else unless its very existence may be explained solely by reference to its own nature, rather than by reference to something other than itself. In other words, for Spinoza, neither Descartes’s finite extended and thinking substances nor Leibniz’s created monads could truly be said to be substances. But the only kind of thing whose existence may be explained solely by reference to its own nature would be a thing the non-existence of which would logically contradict its own essential nature. Either there is such a necessarily existing being, therefore, or there is no true substance at all. This much follows simply from a strict construal of the notion of a substance. But notice that, as yet, nothing has been said to establish that *there is* a substance in this strict sense of the term.

The same point may be made in connection with Spinoza’s introduction of the term ‘God’ into the discussion. He does so in a definition Def. VI: ‘By *God*, I mean a being absolutely infinite that is, a substance, consisting in infinite attributes.’ So far, nothing has been said about whether such a substance exists. And this point also applies when Spinoza goes on to argue that one substance cannot be produced by another substance, and that there cannot be two or more substances having the same attribute or essential characteristic. This is all a matter of drawing out the logical

consequences of the definitions. And notice that it follows from the proposition that there cannot be two or more substances having the same attribute, that *if there is* a ‘substance consisting in infinite attributes,’ then this would exclude the possibility of there being any substances other than God, strictly as a matter of logic. Other substances could not exist, because if they did, they would have to have some attributes, and these would be the same as some of God’s; and such a situation has already been ruled out. So, once he has given his proofs that such a God exists, Spinoza immediately draws the consequences that ‘Besides God no substance can be granted or conceived’ (I: Pr. XIV); and that, accordingly, ‘Whatever is, is in God’ (I: Pr. XV).

It is in Prop. XI that Spinoza asserts that God, or a substance consisting of infinite attributes, exists, and moreover necessarily exists. In supporting this proposition, he refers to an earlier one, which states that ‘Existence belongs to the nature of substance’ (I: Pr. VII). The first proof of God’s existence he offers runs as follows: (1) to conceive of God is to conceive of a substance. (2) Existence belongs to the nature of substance. Therefore (3) God cannot be conceived except as existing; to conceive him as not existing would be absurd it would involve a self-contradiction to deny that he exists. Therefore, he exists.

Spinoza has several other proofs of the existence of God or a ‘substance consisting of infinite attributes.’ The second of his proofs involves a rather strange premise: namely, ‘A thing necessarily exists, if no cause or reason be granted which prevents its existence.’ Given this premise, then, Spinoza says, one may reason as follows: If, then, no cause or reason can be given, which prevents the existence of God, or which destroys his existence, we must certainly conclude that he necessarily does exist. If such a reason or cause should be given, it must be either drawn from the very nature of God, or be external to him. But substance of another nature could have nothing in common with God (by Prop. II), and therefore would be unable either to cause or to destroy his existence. God’s own nature does not involve a contradiction. Therefore, God necessarily exists.

In section IV of chapter, I have further explained the Spinoza’s notion of mind and body, In the Preface to Part III of the *Ethics*, Spinoza says: ‘Most writers on the emotions and on human conduct seem to be treating rather of matters outside nature than of natural phenomena following nature’s general laws.’ The same might be said of most writers on our human nature generally. But Spinoza rejects any such way of regarding ourselves, as though we were wholly or partly of supernatural

origin; just as he rejects any way of conceiving of God, such that God is thought to be a being radically distinct and apart from Nature as a whole. He goes on to say that there is ‘one and the same method of understanding the nature of all things whatsoever, namely, through nature’s universal laws and rules.’ Man, in other words, is to be conceived in no terms other than those which are applicable to the rest of the nature. We are a part of nature, and nothing besides.

Spinoza thus is committed to what might be termed a ‘naturalistic,’ as opposed to a ‘super naturalistic,’ view of man’s nature. His ‘naturalism,’ however, is not to be confused with ‘materialism,’ or the view that everything that exists is completely describable in terms of physical properties, such as extension and motion. For there is more to Nature as he conceives of it than extended things in motion, which constitute the ‘world’ as I spoke of it earlier. The ‘world’ of things in motion is identical with Nature only insofar as Nature is considered under *one* of its attributes namely, under the attribute of extension. But it has another attribute namely, thought; and this attribute is not reducible to that of extension, even though it is not a substance which is capable of existing independently of Nature considered under the attribute of extension. As has already been observed, Spinoza holds that ‘substance thinking and substance extended are one and the same substance, comprehended now through one attribute, now through the other’ (II: Pr. VII: N.). Thus, it is necessary to refer to thought, as well as to extension, in any complete characterization of Nature in general, and of man in particular.

Given that thought or ideas and extension or things are simply ‘one and the same substance, comprehended now through one attribute, now through the other,’ it follows, as Spinoza says, that ‘The order and connection of ideas is the same as the order and connection of things’ (II: Pr. VII). This means that for every thing or modification of extension, there is associated with it an idea or modification of thought, and vice versa. But this does not mean that there are two different orders of *entities*, ideas and physical objects, between which there is a one-to-one correspondence. On the contrary, according to Spinoza, it follows from the fact that thought and extension are simply two different attributes of one and the same substance, that ‘a mode of extension and the idea of that mode are one and the same thing, though expressed in two ways’ (II: Pr. VII: N.)

It was no less common in Spinoza’s time than it is today to think of a human being as a union of a body and a mind. Spinoza is willing to grant this *provided* that the natures of ‘body’ and ‘mind’ and of their union are properly understood. And they are properly understood, in his view, only if

they are construed in terms of the foregoing general analysis. Let us consider first the body, then the mind, and then the nature of their union.

With regard to the body: Spinoza does not consider it necessary to *prove* that one's body exists. If I exist, my body exists. For if my thinking establishes that I exist, it also establishes that my body exists. This follows from the proposition that there can be no modification of thought where there is no modification of extension, since the two are simply one and the same thing considered under different attributes. My existence is itself not necessary; as Spinoza states in the first Axiom of Part II: 'The essence of man does not involve necessary existence that is, it may, in the order of nature, come to pass that this or that man does or does not exist.' But if in fact I do exist, the existence of my body as well as the existence of my thinking is established by the general proposition that thought or thinking things are not substances in themselves, but rather are an attribute or modifications of an attribute of a single substance, another attribute of which is extension. And this in turn follows from the proposition that there can be but one substance, and that both thought and extension are attributes of this one substance.

Given that my body exists, Spinoza holds quite reasonably that the same account is to be given of it as is to be given of the nature of bodies or extended things generally. In particular, he makes the following observations, in Postulates in Part II:

The human body is composed of a number of individual parts, of diverse nature, each one of which is in itself extremely complex. (I)

The individual parts composing the human body, and consequently the human body itself, are affected in a variety of ways by external bodies. (III)

The human body stands in need for its preservation of a number of other bodies, by which it is continually, so to speak, regenerated. (IV)

The human body can move external bodies, and arrange them in a variety of ways. (VI)

As Spinoza holds that our bodies are particular modifications of the one substance considered under the attribute of extension, so also, he holds quite logically, given his premises that our minds cannot be anything other than modifications of the same single substance considered under the attribute of thought.

How are particular things to be characterized, in relation to each other? According to Spinoza, not only in terms of their figures or shapes, but also in terms of ‘motion and rest.’ These are the basic ‘modes’ which qualify extended things. Spinoza says: ‘Bodies are distinguished from one another in respect of motion and rest, quickness and slowness, and not in respect of substance’ (II: Pr. XIII: N. Lemma I). The degree of motion and rest or amount of energy which characterizes a particular single body is a function of its interactions with other bodies. But it is only the simplest bodies which are characterizable in terms of their relative energy alone. More complex bodies must be characterized not only in terms of the relative energies of their components, but also in terms of the relations of their components to each other. Spinoza offers the following definition of a complex body or ‘individual’: When the mutual movements of certain simple bodies, should preserve among themselves a certain fixed relation, we say that such bodies are in union, and that together they compose one body or individual, which is distinguished from other bodies by this fact of union. (II: Pr. XII: N. Lemma III). This system as a whole neither increases nor decreases, but rather constitutes a single stable unit. Thus, it is unitary. And it is indivisible, in that within it there are no parts which are not interconnected with each other. Any division of it into distinct parts is arbitrary and merely conventional, and does not affect the fact that the whole system is a continuum. Within this continuum there are concentrations of centers of energy which we call, and perceive as, particular things; but we should not be misled by the appearance of discontinuity into denying that the continuum exists.

In conclusion, I would like to pose two questions. First: It may be that the applicability of Spinoza’s initial definitions and axioms and postulates to the actual world is more problematical than he thought. But even if one is inclined to question their applicability to the actual world, on what grounds could one dispute it? And second: If one does so, does this mean that the various particular points he makes are to be rejected? If some of them seem appealing and if one nonetheless rejects the basic principles *he* uses to argue for these points, can they be salvaged and defended by means of different arguments drawing upon different assumptions and principles?

## Chapter 4: Leibniz's understanding of Substance:

In this chapter, I would like to explain on how Leibniz's understanding of substance is varied from above philosophers. The philosophical method he proposes is modeled on the mathematical, in the hope of securing a comparable exactness and certainty of our reasoning about reality. Leibniz's program would seem to be essentially similar to that of Descartes, though given this original twist. In fact, however, Leibniz is critical of Descartes's method and procedure on a number of counts. First, he contends that if one is determined to place in question absolutely everything one can conceive of even the slightest reason such as the evil genius hypothesis for doubting, then one will never get anywhere at all. He recognizes that, in order to get out of the predicament Descartes gets himself into through his systematic doubting, Descartes is forced to rely upon certain assumptions which he has no right to assume if he is *really* going to doubt everything that is less than certain. The conclusion Leibniz draws, however, is not that we can never know anything, but rather that we should not be deterred from making a few basic assumptions on the wild supposition that something like Descartes's hypothesis might be the case, provided that the assumptions we make are assumptions no one in his right mind would really question. And he believes that it is necessary to make only two such assumptions, or to take for granted the validity of only two such fundamental principles, in order to get results. Our reasoning is founded on two great principles; the first is the principle of *contradiction*, by virtue of which we consider as false what implies a contradiction and as true anything the denial of which is contradictory or false. The second is the principle of *sufficient reason*, by virtue of which we hold that no fact can be true or existing and no statement truthful without a sufficient reason for its being so and not different.

In section II of this chapter, I propose to discuss some of Leibniz's logical principles. The first point to be explained is the fundamental distinction between truths of reason and the truths of fact. For Leibniz, every proposition possesses the subject-predicate form or can be analyzed into a proposition or set of propositions of this form. The subject-predicate form of proposition is thus fundamental, and truth consists in the correspondence of the propositions in the mind with the things in question. It is true that I have also attributed truth to ideas in saying that ideas are true or false; but then I mean in reality the truth of proposition affirming the possibility of the object of the idea. In the same sense we can say also that a being is true, that is to say the proposition affirming its actual or at least possible existence.

Perhaps the most prominent constant theme of Leibniz's metaphysics is that substances, the basic building-blocks of the universe, must be genuine unities. Leibniz defends this thesis most clearly while criticizing Descartes's metaphysics which, in his view, violates this fundamental condition of being a substance. In Descartes's austere metaphysics the universe is composed of two kinds of created substances: mind whose essence is thought, and body or matter whose essence is extension, the property of being spread out in three dimensions. Leibniz is by no means uncritical of Descartes's doctrine of mind or thinking substance, but it is Descartes's account of extended substance which is the target of his special scorn. In the *Discourse on Metaphysics* and related writings Leibniz may be uncertain whether any body is a substance, but he is quite certain that body, as conceived by Descartes, does not fit the bill. As Leibniz remarks, if bodies are substances, their nature cannot possibly consist only in extension, that is to say, in size, shape, and motion (DM 9, WF 60).

Aristotle's central teachings about the nature of substance are composed of two main strands. In the first place, Aristotle devises a linguistic test to analyze our notion of what it is to be a substance or genuine thing; substances are 'ultimate subjects of predication'. Now Alexander the Great, for Aristotle, passes this test since, while many things can be predicated of Alexander – we can say, for example, that he was a Macedonian and a famous general – Alexander himself cannot be predicated of anything else; there is nothing of which we can say that it is an Alexander (except perhaps in a deviant, figurative sense). The same point can be made in slightly different terms by saying that the name 'Alexander' can appear only in the subject position in the sentence and never in the predicate position. Honesty, by contrast, fails to pass Aristotle's test for being a substance, for while honesty is a subject of predication, it is not an ultimate subject, since it can itself be predicated of other things; we can say, as Othello falsely did, that Iago is full of honesty (cf. Bennett 1984: 55–6). Thus, Aristotle's linguistic test divides the universe into substances and non-substances in such a way that it does justice to our intuitions about which items are genuine things, and which are not.

The second main strand in Aristotle's thought is that substances are 'substrata of change'; here Aristotle expresses a characteristically Greek preoccupation with the fact that the world in which we live is one of constant flux. As Aristotle says in the *Categories*: 'The most distinctive mark of substance appears to be that while remaining numerically one and the same, it is capable of

admitting contrary qualities' (Ch. 5, 4a). Once again Alexander the Great illustrates Aristotle's point well. Although of course he never instantiates both properties simultaneously, Alexander the baby is 2 feet tall and Alexander the general is, say, 6 feet tall, yet it is one and the same individual throughout. Similarly, the oak tree in the park was once a sapling, and further back, an acorn; yet the properties which it has as a full-grown oak been very different from the properties which it had as a sapling or an acorn.

Arnauld believes, in other words, that Leibniz is seeking to refute the Cartesian doctrine of extended substance by means of the following argument:

1. Any entity whose essence is extension lacks genuine unity.
2. Any entity which lacks genuine unity is not a substance by a stipulative definition of 'substance' as 'that which has true unity'.
- 3 Therefore, any entity whose essence is extension is not a substance.

Leibniz's reply to Arnauld's criticism is highly instructive. Leibniz firmly denies that he is simply defining 'substance' as 'that which has true unity'. Nonetheless, he does recognize an equivalence between being a genuine unity and being an ultimate subject of predication; as Leibniz tells Arnauld.

To conclude the chapter, I embrace as an axiom the following proposition which is a statement of identity which varies only in the placing of the emphasis: nothing is truly *one* being if it is not truly one *being*. It has always been held that *one* and *being* are reciprocal things. (WF 124) Thus, Leibniz accepts the second premise of the argument, but he denies that it is true by virtue of a stipulative definition of the term 'substance'. The great constants of Leibniz's metaphysics: substances are genuinely unified, indivisible, and active. Concentrating on the writings of his middle period, such as the *Discourse on Metaphysics*, it shows how Leibniz offers positive arguments for these and other God-like properties of substances; it thus seeks to establish the thesis that, for Leibniz, all created substances are mirrors of God. The first two sections of the chapter examine Leibniz's criticisms of two leading metaphysical systems of the time for giving inadequate accounts of the nature of substance. Leibniz criticizes Descartes's doctrine of extended substance for violating the unity requirement for being a substance. According to Leibniz, Descartes fails to take

seriously Aristotle's claim that a substance is an ultimate subject of predication; Cartesian bodies are mere aggregates, not true unities, and thus cannot be such ultimate subjects. In response to Arnauld's objection that he is introducing a stipulative definition of 'substance' as that which has true unity, Leibniz protests that he is simply recognizing the traditional equivalence of unity and being. The other metaphysical system in the period which Leibniz criticizes for offering an inadequate account of substance is the doctrine of occasionalism associated with Malebranche. As an unorthodox version of Cartesianism this system inherits all the difficulties of Descartes's concept of extended substance, but it also involves specific difficulties of its own. Leibniz has three main objections to occasionalism: first, it involves a disturbance of the laws of nature which causes problems in physics; secondly, it introduces perpetual miracles, and third, and perhaps most importantly, by failing to recognize the essential activity of substances, it leads to the Spinozistic heresy that God is the only substance. In the next section we see how Leibniz advances positive arguments for his own metaphysical doctrines which imply the falsity of occasionalism. In the *Discourse on Metaphysics* Leibniz develops a line of reasoning which is sometimes called the 'logician' strategy inasmuch as it seeks to derive metaphysical doctrines from logical considerations about the nature of truth. In particular, beginning with his distinctive concept containment theory of truth, Leibniz argues for the Identity of Indiscernible and for the doctrine of the pre-established harmony. Leibniz's attempt to derive his metaphysics in this way is discussed in the light of the criticism that it conflates the level of concepts in God with the level of substances in the world. Whatever the validity of such criticisms, the limitations of the logicist strategy are apparent in its inability to explain why God alone acts on created substances. However, reasons are given for believing that this doctrine is not simply an ad hoc exception to Leibniz's denial of causal interaction between substances. In the final section of the chapter it is argued that although, in his middle period, Leibniz is clear about the conditions for being a substance, he is still unclear about what items in the world satisfy these conditions; in particular, Leibniz is undecided about whether any physical objects qualify as substances. Leibniz apparently oscillates between holding that organisms are genuine substances and holding that all substances are of the nature of spirits. Thus, Leibniz has not yet arrived at his final metaphysical position, the theory of monads.

## Chapter 5: A Comparative and Critical study of Descartes, Spinoza and Leibniz.

In this chapter I would like make a glimpse of how Empiricists attack on theory of substance and P F Strawson's interpretation of Kant's Substance, and lastly, I presented my understanding of theory of substance as concluding presentation.

As a comparative study of the concept of substance of these philosophers is much needed attention of Empiricists understanding of Substance.

John Locke can be summarized the genealogy of the word "substance," saying that, on an empirical basis, one can know the qualities (what the medieval would have called the accidents) of the substratum. But that the substratum itself (what the medieval would have called the substance) is "something I know not what." He pointed out that one observes groups of qualities that occur together in time and space, and we therefore presume that these qualities belong to one thing, to which we give a name such as "gold," or "fish," or "peach," as a referent for that collection of perceived qualities. For Locke, substance, then, is not a positive concept but an "obscure and relative" notion about "the supposed but unknown support of those qualities we find existing, which we imagine cannot exist *sine re substance* without something to support them." (*Essay Concerning Human Understanding*, Book II, Ch. 23)

George Berkeley pushed Locke's work further, claiming that there is no such thing as material substance, but only ideas and minds. Berkeley did, however, say that there is a substantial soul. And his critic of Leibniz's substance; each monad is a "perpetual, living mirror of the universe" and reflects all of the others perfectly.

No extended thing is a substance. This is a consequence of indivisibility, together with Leibniz's claim that all extended things are divisible. But what, then, are tables? What is the relationship between a table and the substances that exist? Leibniz's answer: bodies are "a phenomenon resulting from simple substances, which alone have unity and absolute reality". What does this mean? George Berkeley held a view like Possibility 1. Leibniz is closer to 2, though exactly how an aggregate of non-extended substances can "result in" an extended thing remains obscure. Causal isolation says that no substance causes anything to occur in any other substance. Exactly why Leibniz thinks this is a bit obscure, but here are two considerations from *Primary Truths*: Strictly speaking, one can say that *no created substance exerts a metaphysical action*

*on any other thing.* For, not to mention the fact that one cannot explain how some-thing can pass from one thing into the substance of another, we have already shown that from the notion of each and every thing follows all of its future states.

I think Leibniz would defend his first claim that one cannot explain how something can pass from one thing into the substance of another on the grounds that substance has no parts. The second claim is that given complete concepts, we already have an explanation for every perception and appetite that ever affects any monad i.e., that perception or appetite is part of that monad's nature. So, it's explanatorily superfluous to posit the existence of inter-substantial causation.

David Hume usually held to be the greatest of the empiricists developed the full implications of the empiricisms of both Locke and Berkeley by denying the existence of any form of substance, either material or spiritual, since, he held, any conception that is not supported by sensory impressions is meaningless

Hume did not believe in Aristotelian substance theory. In the *Treatise*, he explains his reasons for rejecting it. He believes that there are two experiences that people have in regard to things. In the first, some things change. Some things stay the same through the changes that happen to them. So, we see both change and sameness in the world. The substance theory of Aristotle is one way of explaining that change. Hume rejects this theory because he falsely believes that there is no evidence for the existence of substances.

Hume's argument is quite simple. We see that the world around us changes. There are various qualities in world. Let's consider color and size. We might say that the ball is both red and spherical. According to Hume, we associate redness with being a sphere and call that a ball. Being both red and spherical and whatever else is true of the ball is the same as being a ball. There is nothing else there. According to Hume, Aristotelian substance theory says that there is one thing left when we subtract everything else. This one remaining thing is substance. But we cannot see substance or detect it in any way. Therefore, it does not exist. The problem with Hume's argument is in two parts. The most important part is that he has misunderstood Aristotle. Aristotle believes that substances can be easily sensed and examined. The red ball is the substance. When we see the redness, we are seeing the way that the substance exists. All of the qualities are the qualities of the

substance. If they were all removed then there would be no substance. So, although Hume's argument works, he is arguing against something Aristotle never said. The second problem with Hume's argument is that he rejects the real substance theory of Aristotle as well as the false theory. He believes that the ball is simply a bundle of qualities. This is absurd. Not all qualities are created equal. Some qualities are deeper than other qualities. The qualities are related to each other by a structure. If this is a rubber ball, then the quality of "being bouncy" is explained by the qualities of rubber. The red color is explained by the nature of the paint chemicals. Eventually we come to qualities so basic that the ball requires them in order to be a ball. These are the properties of the ball. The previous qualities are the accidents of the ball. The properties of the ball are all required to be a ball because they are required by what a ball is the essence of being a ball. But this is Aristotelian substance theory. Hume simply did not analyze his rejection of Aristotle nearly as deeply as he should have. Thus Locke's "something I know not what" is, Hume held, without meaning. Hume was consistent in this, denying that there is any human or personal "self" to be found. "When I enter most intimately into what I call myself," he wrote, "I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never catch myself at any time without a perception, and never can observe anything but the perception." (*Treatise of Human Nature*, "Of Personal Identity," Book I, p. 525.) Descartes' "Cogito, ergo sum" is completely impossible in Hume's philosophy

There is one other aspect of Kant's exposition which I mentioned only in passing at the outset and which deserves a closer look. This is the point at which Kant refers to 'the empirical criterion of substance', saying, you will remember: 'substance appears to manifest itself not through permanence of appearance, but more adequately and easily through action'. This immediately prompts the question: What is the connection between action and permanence (the latter being the essential characteristic of substance)? Kant himself asks the question: 'how are we to conclude directly from the action to the *permanence* of that which acts?' 'Action', says Kant, 'signifies the relation of the subject of causality to its effect'. The obvious objection is that, on the face of it, all sorts or transitory things *act* to produce effects and are therefore subjects of causality. Kant's answer is that 'actions are always the first i.e. ultimate? Ground of all changes of appearances' and cannot therefore be found in a transitory subject since its own coming into existence would require the action of another subject of causality. So, action is found only in the permanent. This, again on

the face of it, seems an unsatisfactory answer, since actions are presumably happenings and therefore themselves caused, in which case they cannot be the *first*, i.e. *ultimate* ground of change. I think Kant would reply here that this shows a misunderstanding: that it is a mistake to identify action(s) with happenings and that all happenings are ultimately the effects of the active force of the real or fundamental subject of causality, viz. matter. (The use of the plural 'actions' is perhaps best seen as an aberration, like the potentially misleading use of the plural 'substances.') But then the persistent objector will say: But why should we accept that this is so, i.e. that all change is ultimately the effect of the action of a subject of causality as you have now explained it? This proposition certainly does not follow from the principle of causality as affirmed in the Second Analogy, which states only that every alteration has *some* cause.

Although Kant in the *Critique* gives us no compelling reason why we should accept that this is so, it is clear enough why he *thought* it was so. We have only to remember that he thought of everything in objective Nature as a mode of existence or, determination of matter, i.e. substance; and that (the Concepts of Reflection, B 321) 'we are acquainted with substance in space only through *forces which are active* in this or that space, either bringing other objects to it (attraction) or preventing them penetrating into it (repulsion or impenetrability). We are not acquainted with any other properties constituting the concept of substance which appears in space and which we call matter.' And here we come to what might, slightly frivolously, be called the substratum of the whole of Kant's treatment of substance. I would tentatively suggest that what accounts for, though of course it does not validate, the entire elaborate and ingenious structure of the argument is the prior conviction that everything in the field of objective appearance (appearance in outer sense) *comes down to* (as Quine would say), or is reducible to, the movement of (permanent) matter in space. There is in fact a certain harmony of view between Kant and Quine here, though the latter perhaps goes further: he wrote in a recent review that there is nothing whatever, 'not the flicker of an eyelid, not the flutter of a thought', which does not essentially consist in, or at least involve, some disturbance of particles or 'redistribution of microphysical states'. With a suitable interpretation, we might well think this, or something like it, true. But we cannot use Kant's arguments to prove it; nor can we think these arguments strengthened by the application he makes of the formal or logical criterion of substance.

## **Conclusion:**

To conclude the thesis, it's very vast and much elaborated topic, where I can throw a light on why the theory of substance cannot be rejected in metaphysics, that so to say the question of substance firstly formulated as inquiry of what is a being and what are the constituents of reality? To begin with I have discussed three main rationalists' philosophers, to reconcile their understanding on substance is not very easy to handle. They are very profound and undoubtedly best thinkers, whose concepts are brought a huge turn in understanding of philosophy in terms of scholarship. In this I have discussed much strongly the Aristotle's understanding of origination of the question 'what is being?' to 'what makes the constituents of reality?' which further led a vast research on the understanding of substance.

Descartes's theory of substance is indubitably best, but there are so many commentaries came on his understanding of substance, but to say the question of substance is much flourished in 17<sup>th</sup> century because of him. Descartes Meditations on first philosophy explores all the discussions on the concept of substance. Descartes believed in only two kinds of substance: material body, which is defined by extension, and mental substance, which is defined by thought, which, in this context, is more or less equivalent to consciousness. For Descartes, therefore, material substance falls more naturally into the *stuff* category, rather than into the *thing* category. The situation is different for mental substance. The *cogito* shows that Descartes definitely believes that each person is a different individual mental substance. Descartes, like the atomists, believed that matter operates in an entirely mechanical way. There is, therefore, no causal role for substantial form to play and, hence, no need for such forms. His two substances are each defined in terms of one property (extension for matter and thought for mind), hence there is no problem about the relation between substance and the properties in terms of which it is defined. As he does not have substances as individuals made of kinds of stuff, there is no conflict between individuals and stuffs.

For Spinoza, there is only one substance, the existence of which is demonstrated by a version of the ontological argument that is thought of as being both God and Nature. It is an unending controversy whether Spinoza was a pantheist, or an atheist who called nature 'God' because it was the one true substance and existed necessarily. Everything else is a mode of this one substance.

The view is analogous to a claim that the universe is space-time as a whole, with matter as distortions in it. If this were true, material objects would be modes of space-time. The analogy would be more exact if one also thought of the laws of nature as equivalent to the divine intellect immanent in nature. Spinoza's view represents the extreme end of stressing the status of substance as the fundamental existent conceived of as wholly necessary and self-subsistent.

Leibniz was not satisfied by this conception of divine substance, at least in part because it confines God to what actually exists. For Leibniz, God contains within himself all possibilities, not just the actual world: this latter is just that maximal set of possibilities that he has best reason to actualize. Leibniz acknowledges created substances, though they are very intimately dependent on God. In the *Discourse on Metaphysics*, he says it is clear that created substances depend on God, who conserves them and indeed who produces them continuously by a kind of emanation, just as we produce our thoughts.

The analogy with thought hardly emphasizes the independence of substance! Nevertheless, created substances do constitute the created world, and do, in that sense, meet criterion (i) for being substance. They are also the subjects of predication, so they meet criterion (iii). Leibniz's substances, however, are the bearers of change (criterion (iv)) in a very different way from Aristotle's individual substances. One can say that, in so far as, at all times, they reflect the whole of reality, then they do not change. But in so far as they reflect some parts of that reality more vividly than others, depending on their position in space and time, they can be said to change.

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# The idea of absolute substance: why the concept of substance cannot be rejected in metaphysics.

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## Abstract:

Substance (substantia – underlying, underlying – the Latin translation of the Greek) is that which exists independently, in itself, unlike accidents, or properties existing in another (namely, in substance) and through another. Substance is something stable and permanent, as opposed to the volatile and transient; essence (Greek), underlying the phenomenon; indivisible, one, comprehended by the mind, in contrast to the plurality of the sensually perceptible. In the concept of substance, the most important aspect of being finds expression. In European thought the notion of substance received different interpretations: it was regarded as a concrete individual and as a single foundation of all that exists; as ontological reality and as a logical subject; as a spiritual principle and as a material substratum; as the invariable, self-identical essence of the phenomenon and as the law of change, the principle of constructing a series of events, the relation of the accessory of the set of single cases.

**Keywords:** Metaphysics, Substance, Modes, Attributes, God, essence and Substratum.

In the history of philosophy, two basic approaches to the treatment of the concept of substance are traced: monistic and pluralistic. Philosophers, who gravitate towards pantheism, admit a single and unique substance that is conceived as something that, for its existence, does not need anything else, for there is a cause for itself; the independence of a substance is understood here as absolute. Everything that exists is regarded as a state, phenomenon or attribute of this single substance. This view is presented in antiquity in the eleates and stoics, in the Middle Ages, some representatives of extreme realism gravitate toward him, in the Renaissance – J. Bruno, in modern times – Descartes (not completely, however, consistently) and most radically – Spinoza; To this understanding of substance are close Fichte, Hegel, Schopenhauer, Ed. Gartman, to a certain extent VS Soloviev. This understanding of the substance is also shared by representatives of the natural-science materialism of the 18th and 19th centuries – Holbach, Diderot, Focht, Buechner, Moleschott, E. Heckel, etc. Such an interpretation of the substance determines the understanding of causality as a uniform flow of all world

processes, as a steady need for what is happening in nature, society and the human soul; There is no room here not only for a chance but for freedom.

Another understanding of the substance is formed by philosophers of a pluralistic orientation, to which, in particular, those who come from the principle of creationism and the doctrine of the transcendence of God belong, among others. Considering substances as independent principles, unlike their accidents, philosophers of this orientation recognize the relative nature of their independence, which is determined by the place occupied by the substance in the hierarchy of being. Absolute independence is possessed only by the highest – the divine – substance, which is therefore sometimes called not a substance, but a supersubstantial principle. However, because the creature substances do not have complete independence since they depend on the higher and to some extent also on other substances, they do not cease to be centers of power and activity, proving to be real causes of what is happening in the physical and spiritual world. Approximately such an interpretation of the substance is given with certain reservations – Aristotle, Plotinus, Augustine, Boethius, Thomas Aquinas, Leibniz, Berkeley, Bolzano, Teichmüller, modern Neo-Thomists, personalists and religious philosophers-Leibnizians.

Although the question of the origin of all things was raised in ancient philosophy from the first steps, the concept of substance in its sense was formed only in Aristotle. The prerequisites for this were created in the Eleatics school and in Plato, who opposed the truly existing as one, eternal and unchanging to the sensible world of the plural, temporal and changing. Truly, the existing is comprehended only by the mind and is inaccessible to the senses, the subject of which are the transient phenomena of the empirical world. According to Plato, “true being is some kind of intelligible and disembodied idea” (“Sophist”, 246 c); Plato calls them “essences”?, separated from sensory things and are the prototypes of the latter. Criticizing the Platonic doctrine of ideas, Aristotle in the “categories” identifies essence (substance) with a single individual: the first essence is “this is something” “this man” or “this horse.” Unlike all other categories that are predicated of substance according to Aristotle, is an independent being, it “does not affect any subject and is not in any subject” (Cat. 5, 2a). Logically, the substance is the subject of all its predicates, with the ontological – the substrate (?), the real carrier of properties and the premise of relations. From the first essences, Aristotle distinguishes the second, to which not individuals belong, but the general concepts – genera and species: “so, for example, a certain person is, as in kind, in a man, and a kind for this species is a living being” (ibid. ). Unlike the non-predicative first essence, usually called the substance, the second, which served as the predicate of the first, was called the pure essence (essentia). Aristotle after Plato believes that it is substances possessing stability and self-identity that constitute the subject of knowledge. And yet the substance as a separate individual in its singularity can not be

known; Aristotle is forced to admit that the subject of knowledge is the “indivisible species”, i.e. the least common, the species-eidos closest to individuals, which goes back to the Platonic idea and is called indivisible because it is not further divided into species. Essence as an “indivisible form” is the essence of being (?), the quidditas of a thing expressed in its definition. In the case of the indivisibility of existence in appearance, we are talking about the essence-eidos, the identical form of the thing as the reason for being the latter; such, for example, “the soul as the cause of the living being” (Metaphysics, V, 8).

In the case of the indivisibility of being in number (that is, indivisibility of the individual), the essence (substance) will be a composite of form and matter; such are all sensible substances, primarily living beings. In addition to composite, there are also simple substances that represent a pure relevance, or a pure form. The highest among them is, according to Aristotle, the perpetual motion, the pure mind, thinking itself, the reason for being and the life of everything. As we see, the substance is identified by Aristotle not only with a single being, but also with form, which gave rise to many problems and difficulties in the further interpretation of this concept.

Another influential philosophical school, which proposed a different interpretation of the concept of substance than the Aristotelian interpretation, was the Stoics. They treat the substance as a substrate?, also?, and consider the first of the four categories recognized by them. The existing Stoics consider a single substance: it is the “fiery god-logos and it is also cosmos”. This beginning is bodily, because, according to the Stoics, to exist means to be bodily (the Stoics considered both the soul and God to be corporeal). God Logos, identified with the creative fire, the source and cause of generation (Sext. Adv. M. IX 196 sq.), Permeates the whole cosmos as honeycombs, and is “nature” and “pneuma”, “Warm breath”, fire ether (Diog. L. VII 137). Thanks to the pervasive “tension” of the pneumatic system, the unity of the cosmos and the individual existence of things are ensured, which, however, should not be thought of as a substance in the spirit of Aristotle. “Stoic ontology is not the ontology of substances, but the ontology of the given (Tatsachen-)” (Graser, A. Zenon von Kition, Positionen und Probleme, V.-?, 1975, p. 27). In the pantheistic ontology of the Stoics, the Logos and the unqualified substratum, matter (?-?, Diog. L., VII 134), active and passive beginnings are thought of as inseparable and, therefore, constitute a single world substance. Close to the stoic understanding of the substance is revived in the pantheistic and materialistic teachings of the Renaissance and New Age.

In the Middle Ages, the treatment of substance relies primarily on the Aristotelian and partly Neoplatonic tradition. The duality of the Aristotelian doctrine of substance gave birth to two directions: its understanding as a single individual formed the basis of nominalism, and the extreme realism gravitated towards understanding it

as Eidos, whose representatives proceeded from the real existence of the common. At the origins of medieval scholasticism stands Boethius, who acted as a mediator between ancient philosophy and Christian theology, as well as between Greek and Latin education. Boethius tries to bring terminological clarity into Aristotle's doctrine of substance as an individual and as a species. "With the words *subsistentia* and *subsistere* we call what the Greeks call *andros*; and we translate them? and as *substantia* and *substrate*. A subsistence is something that does not itself need accidents to exist. And the substance is what serves as a subject for other accidents, without which they can not exist... Thus, genera and species are only subsistences, for genera and species do not have accidents. And individuals – not only subsidies, but also substances, because they do not need accidents for their existence, but serve as subjects for accidents... »(Against Eutyches and Nestorius – Boethius, *Consolation of Philosophy and Other Treatises* M., 1990, page 173). However, Boethius himself does not always consistently distinguish between subsidy and substance. In his *Commentary on Porphyry*, he calls the most generic kind of substance, which speaks out about all the others: "... Substance is the highest kind, because it precedes all, but itself is not subordinated to anything" (ibid., P. 56). The individual and the higher race receive, therefore, the same name.

Gilbert of Porretan (12th century), following Boethius, distinguishing substances as actual individuals from subsidies as genera and species, examines the ontological status of subsidies, from which, he believes, substances arise. The source of sensible substances, according to Hilbert, is what the Greeks called ideas, and the Latins called forms. Ideas are pure substances (*substantiae sincereae*), since they are free from matter. There are four basic pure substances: fire, air, water and earth, which do not need to be confused with the corresponding sensually given elements, because they are about their ideal prototypes. In general, all forms of composite substances are only images of pure and eternal substances – ideas. Thus, the forms, as Aristotle thought them, in the extreme realist Hilbert, are transformed into universals existing before things. God, according to Hilbert, is an essential being (*essentia*), from which all things receive their essence and being. The beingness of God is the being of all creatures. Unlike God, in which being and essence coincide, in created things their being (*esse*) and essence (what is – *id quod est*) are different. The source of the being of a thing is its idea, or its pure form; so, corporeality is the being of the body, the very body that exists due to corporeality is that which is. Hilbert gives an interpretation of the substance in the spirit of Platonism, to which other representatives of realism are close to varying degrees-Bernard Chartres, Guillaume from Champou, Guillaume from Conch, and others.

A closer to Aristotelian understanding of the substance is defended by Thomas Aquinas. Identifying substances with individuals, he distinguishes between substantial and accidental forms: the latter are the sources of

qualities, while the former inform beings of being (Summa theol., I, q. 76 4 s). “Being itself is an act of substance” (Summa contra gent., II 54). Depending on the nature of the form inherent in it, the substance occupies a certain place in the hierarchy of creatures. In lower substances – inorganic elements and minerals – the form is *causa formalis* and constitutes the external certainty of the thing. At the next stage – in plants – the form appears as *causa finalis*, the ultimate cause of the substance, or the soul from within it forming. In animals, the form is *causa efficiens* – the acting cause, and such substances are not only animate, but also active. Finally, in the fourth stage, the form appears not as the beginning that organizes matter, but in itself (*forma per se, forma separata*). It’s a spirit, or an intelligent soul. Being immaterial, it does not perish with the death of the body, it can be destroyed only by the Creator. Thomas calls this substance “self-existent.” If the sensual animal soul carries out its actions through the body, then the sensible has actions separated from the body, thinking and will. All substances, except spiritual, consist of matter and form, while spiritual beings are from substance and being: the substance in them is a potential beginning. “It is not the same consist of matter and form and of substance and being, although both are related (in both cases) as a potency and an act” (Summa contra gent., II 54).

The nominalists of the 14th century consider the problem of substance quite differently. – William Ockham, Nicholas from Otrekura, Peter Lombard and others. They proceed from Aristotle’s doctrine of substances as individual individuals, but place it in a new context, seeing the supreme cause of all things in an all-powerful divine will that does not have any determinism on it and that which is represented by the ideas of the divine mind itself. Relying on Duns Scotus, who maintained that “nothing but will is the cause of all that the will wants” (Oxon II, d.25 quic n. 22), Occam believes that first God creates his own will by his will things, and then as their representations, ideas arise-the signs of individual things in the mind. Thus, the substance loses its meaning as an independent being, the bearer of accidents, which have no existence without substances. According to Peter of Lombard, God “can create any accident without mediating substance only by his action, therefore, he can create any accident without another and the substance without accident – by his own action” (Petros Lombardi, Lion, 1495, I d 30 qu 1).

Such an argument removes the difficulties of the “transubstantiation of substances” in the sacrament of the sacrament, but at the same time entails a radical reorganization of the former ontology and theory of knowledge. If in scholasticism from Bonaventura to Thomas the object of cognition are substances as intelligible realities, then, according to Occam, knowledge must be directed to the empirical reality of individual things, because not substances are learned, but only accidents; This is intuitive knowledge – *cognitio intuitiva*. T., a tendency is to treat knowledge as the establishment of a link between accidents, i.e. limit it to the

world of empirical phenomena, and the Aristotelian principle of ontology and logic is being revised, which states that the substances are the first relations. This trend triumphed in modern times in natural science and philosophy – in English empiricism, Kant's transcendental idealism, in neo-Kantianism and positivism. The elimination by nominalists of the intelligible substances and the reduction of the empirical being to the level of phenomena unexpectedly turned out to be consonant with the principles of the stoic ontology, which considered all things as actual data, manifestations of a single world substance. Nominalism thus prepared the ground for the reception of Stoicism, which received a new life in the natural philosophy of the 16th century – Telezio, J. Bruno, Campanella, etc. Nature acts as a single self-sufficient and self-sufficient, pantheistically interpreted dynamic system in which everything is subordinated to the laws of necessity. Bruno's doctrine of infinite substance as an impersonal absolute, which manifests itself in all things, anticipates the pantheistic interpretation of substance in Spinoza. In the 17-18 centuries. the controversy surrounding the concept of substance is conducted between two directions, each of which, albeit to varying degrees, has been influenced by both nominalism and stoicism-rationalism and empiricism. The rationalistic interpretation of substance is given by Descartes, occasionalists, Spinoza, Leibniz; empiricist understanding of it is found in Fr. Bacon, Locke, Berkeley, Hume. Descartes defines substance as a thing that, for its existence, does not need anything but itself, therefore in the strict sense of the word, only God can be considered a substance, which is "eternal, omnipotent, the source of all good and truth, the Creator of all things..." (Selected works of M., 1950, p. 436).

Nevertheless, Descartes calls the substance and created things, namely those that "for their existence need only the ordinary assistance of God" (ibid., P. 448), unlike attributes and qualities that can not exist without substance. Such are the thinking and corporeal substances: the first is unextended and indivisible, the second is long and divisible, has a figure, movement and a certain arrangement of parts. The indivisible substance – the mind, or the intelligent soul, is the object of metaphysics, the divisible substance – matter, or space, is the subject of physics. Identifying a material substance with space, Descartes eliminates the target causes and creates prerequisites for the mathematical science of nature – mechanics. Following Descartes, Spinoza defines substance as that which exists in itself and is represented by itself; The independence of a substance is conceived by Spinoza as absolute.

The substance has the attributes that make up its essence, and the modes – the states of the substance (substantiae affectio), i.e. that which exists in the other and through the other (see Election in 2 vol., vol. 1. M., 1957, p. 361). Rejecting the Cartesian doctrine of created substances as contradicting the very notion of substance, Spinoza asserts that "apart from God, no substance can neither exist nor be represented" (ibid., P. 372). The substance is infinite, endowed with infinitely many attributes, each of which expresses its eternal

essence, but only two of them are open to human knowledge – extension and thinking. All finite beings are modes of substance. Spinoza's substance is not a personal transcendent God of the Christian religion: "In the nature of God, neither mind nor will has a place" (ibid., P. 378), it is the immanent cause of all things acting, like the Stoic nature, and therefore can be called nature. Criticizing Descartes' thesis about the pluralism of spiritual substances and considering intelligent souls as modes of divine substance, Spinoza thereby turns them into relationships that do not have independent existence; between ideas as modes of the attribute of thinking and intelligent souls, Spinoza makes no distinction: the links between those and others are equally necessary in the nature of the logical sequence (it is no coincidence that the real reason for Spinoza coincides with the logical basis).

Aristotelian-Thomist tradition in the understanding of substance in the 17th century continued Leibniz, in a polemic with Descartes and Spinoza revived pluralistic metaphysics. Unity, indivisibility, i.e. simplicity, – the main definition of substances from Leibniz, which is why they are called monads. According to Leibniz, monads do not influence each other ("do not have windows") precisely because of their unity, because the single, included in the system of relations, becomes many. Leibniz points out the contradictoriness of the Cartesian concept of extended substance: extent, space, being a passive, inactive, beginning, is only an opportunity, whereas substance always means reality. Substances-monads are expediently organized oneness, entelechy, centers of activity, life and power, which Leibniz thinks by analogy with the soul; the activity of monads consists in representation and aspiration. The number of monads is infinite, they differ in the degree of clarity of their representations, beginning with the highest – God – through the most perfect among the created – intelligent souls – to the lower ones, whose perception and aspiration is becoming less and less distinct and more unconscious – such are the monads making up inorganic substances. Thus, only the indivisible, and therefore non-material, substances have a real existence; As for extended and divisible bodies, they, according to Leibniz, are not substances, but only assemblies, or aggregates of monads. In the smallest part of matter there is a whole world of living entelechies, souls.

Although traces of nominalistic influence can be found in the new European rationalism, the most consistently nominalist line in the treatment of substances was continued in English empiricism – from Fr. Bacon, J. Locke, D. Jum. Without denying the existence of substances directly, Locke, however, is convinced of their unknowability. He proceeds from the thesis that the source of all knowledge is experience – both external and internal (the latter he as a psychologist attributed a particularly important role). But in experience, only the qualities and properties of things are always given, but not their intelligible substances. The idea of substance, according to Locke, is "nothing more than the assumption of an unknown... bearer of those qualities that

simple ideas can conjure up in us and which are usually called” accidents “(elected philosopher in 2 tons, 1. M., 1960, page 301). Body substances, for example. oak or horse, represent only a combination of simple ideas of those sensory qualities that we find in objects called these names; not understanding how these qualities can exist together, we, according to Locke, attribute them to some common basis that supports their substratum. The same is true with spiritual substances, which are unknown carriers of such simple ideas of inner feelings as thinking, striving, doubt, etc. The material substance, that is, is the substratum of simple ideas that we receive from without, and the spiritual substance is the substratum of the activity that we discover within ourselves.

Descartes recognized the reality and cognizability of the infinite substance and substances of the finite – bodily and spiritual. Spinoza claimed the real existence of a single substance – a pantheistically understood God, or nature, whose knowledge is thereby the cognition of all things that are contained in God and flow from his infinite essence. Locke declared the substances unknowable, thereby depriving the metaphysics of its traditional subject and replacing it with epistemology and psychology. J. Berkeley deepened Locke’s agnosticism in relation to material substances, declaring them not only unknowable, but also nonexistent. Unlike Locke, he proved the reality of spiritual substances, the perception of which constitutes the material world (“to be is to be perceived”). Using the term “ideas” in the same sense as Locke, i.e. meaning under them sensual qualities (color, smell, sound, etc.), Berkeley shows that they exist only for the perceiving subject – the spirit, the soul, our Ya. Only he is the real substance. “There is no substance other than the spirit or what it perceives... There can be no unthinking substance or an unreasoning substratum of these ideas” (Works of M., 1978, p. 174). Berkeley, like Leibniz, considers the concept of “material substance” to be self-contradictory, for the properties attributed to it-extension, form, movement-are only ideas existing in the spirit-the thinking substance. D.Yum drew skeptical arguments against all substances, including spiritual ones. The concept of a substance, according to Hume, arises in our mind due to subjective, psychological reasons and has no objective significance. Hume rejects the main argument in favor of the existence of spiritual substances, namely, conviction in the metaphysical identity of I. “I can not in any way catch my Ego as something existing apart from perceptions and I can not notice anything except any perception” (Works in 2 t., t. 1. M., 1965, p. 366). I, or the human personality, is not a spiritual substance, but a “bundle or bundle of... different perceptions that follow one after another with inconceivable speed and are in a constant flow... In the spirit there is no simplicity at any given moment and there is no identity in the various moments... “(ibid., p. 367). The idea of self-identity of the soul, I as a substance arises, according to Hume, for purely psychological reasons: by virtue of the unity of the act of perception of alternating impressions. We accept the unity of this act for the identity of its object. “The act of our imagination, through which we perceive... an unchanging object, and the one by which we contemplate the sequence of correlative objects, is experienced by us almost equally... This similarity is the cause of confusion

and error, forcing us to replace the representation of correlative objects by the representation of identity “(ibid., p. 368). The nominalization of substance initiated by the nominalists leads to a logical end.

Since Kant, the subject of philosophy is not a substance, but a subject. The transition from substance to subject was already committed by Locke and Hume, who had in mind a psychological, that is, empirical, subject in his individuality. Kant introduces the concept of the transcendental subject, thereby freeing himself from psychology in the theory of knowledge, but to a large extent sharing Hume’s criticism of the concept of substance. The empirical world, the world of experience, both external (nature as an object of natural science) and internal (the soul as an object of empirical psychology) exists only in relation to the transcendental subject who constructs this world with the help of a priori forms of sensuality (space and time) and a priori forms of reason (categories).

The definitions attributed to the material substance – the extent, figure, movement – are the products of the activity of the transcendental subject. In the world of nature there is no place for the self-existent, here everything is determined by the connection of mechanical causes, i.e. another and through another, because this world exists by its relation to *Ya*. Kant rejects the notion of substance as applied also to the individual soul, treating it not as a substance, but as a phenomenon constructed by the inner feeling. In a polemic with Descartes and Berkeley, Kant proves that the individual consciousness is secondary to external objects, since the function of the external sense serves as a prerequisite for the function of the sense of the inner. However, relicts of substances as independent beings, without reference to the transcendental subject, are preserved in Kant in the form of unknowable things in themselves, affixing sensuality. Unavailable to theoretical knowledge, things in themselves belong to the world of freedom – the world of practical reason: man as a moral being carries in himself those traits traditionally endowed with spiritual substances. Kant gave a logical-ontological analysis of the category of substance, which had a significant influence on the interpretation of this concept in transcendentalism – in Fichte, Hegel, and neo-Kantians. Kant’s substance is a category of reason and belongs to the category of dynamic categories, not concerning objects of contemplation, as mathematical categories, but the existence of these objects in relation to each other or reason. The first of these relationships is inherent and independent existence (*substantia et accidens*). Substance, therefore, is nothing more than a constancy of relations: “That constant, only in relation to which it is possible to determine all the temporal relations of phenomena, is a substance in a phenomenon, i.e. the real (content) of the phenomenon, which always remains the same as the substratum of any change”.

It is clear that one can speak of substance only in relation to the world of experience: it is that form of reason by which it regulates temporal relations. Kant radicalizes the tendency in nominalism and English empiricism to equalize the ontological status of substance and accidents, ascribing priority to the relation in comparison with substance. Being a category of reason, the substance has a meaning – through pure contemplation (space and time) – only for the world of phenomena and does not exist independently of the knowing subject. This interpretation of knowledge is even more consistently pursued in post-Kantian German idealism. Eliminating the thing in itself and transforming the transcendental subject into the absolute creator of all things, Fichte did not leave room for the independent existence of individual substances – as a single thing, and as a single soul. Substance as a category of reason is, according to Fichte, only the totality of the terms of some relation. Schelling, like Fichte, believes that substances exist only for the ego, and “the question of how substances are for themselves is meaningless” (Works in 2 vol., Vol. 1. M., 1987, p. 349).

Being a product of the activity of the I, the substances belong to the phenomenal world and are reduced to its spatial and temporal dimensions. “What is substantial in an object has only a value in space, something that is accidental is only a quantity in time” (ibid., P. 345). Criticizing the “subjective subject-object” of Fichte, Hegel puts the self-developing idea, the pure logical concept as the unity of subjectivity and objectivity, into the place of the absolute self (see Collected Works, Vol. 1. M.-L., 1929, p. 266). It is an absolute substance-subject, a pantheistically understood Logos, immanent in the world and not allowing near to itself any independent beings, substance-individuals. In the 2nd part of the 19th century, as a reaction to German idealism, the materialist doctrine of substance, on the one hand, and the various versions of realism that revive Leibniz-vu’s treatment of substance, on the other. In the materialism of Buchner, Focht, Moleschott, as well as their predecessors in the 18th century, – Holbach, Diderot, etc., as a substance, a single, eternal, uncreated matter is put forward, the form of manifestation of which is the diversity of things. Combining Focht’s materialism with the natural-science notions of his time, E. Haeckel formulated the so-called. the law of substance in which “the two supreme universal laws of various origins have been united: the older chemical law on the” conservation of matter “and the physical law on” conservation of force “discovered relatively recently” (Haeckel, E., World Mysteries, St. Petersburg, 1906, p. 109). The law of substance is, according to Haeckel, the basic cosmological law, which proves the unity of the world and the causal connection of all phenomena, “finally breaking up the three central dogmas of metaphysics: God, freedom and immortality...” (ibid., P. 120). Force and substance Haeckel sees as indivisible attributes of a single substance, thereby giving a materialistic interpretation of the worldview of Spinoza and Goethe.

Representatives of realism in the treatment of substance do not equally accept both the idealistic and materialistic understanding of it. IF Herbart treats substances as immutable and self-identical principles of things (reals); B.Bodzano restores the independent being of monadic substances, in the spirit of Leibniz, understanding it as irrelevant to the knowing subject, but in contrast to Leibniz allowing the interaction of monads. F. Brentano contrasts Aristotle's realism with the "sophist" Hegel, who reduced the substance to the level of mere phenomena, dissolving them in this way in a relationship. G. Teichmuller, rejecting the Kantian criticism of rational psychology and defending the thesis of the immortality of the individual soul, proceeds in his personalistic metaphysics from the understanding of the I as a prototype of the concept of substance in general and considers immaterial substances-monads as real, active principles of everything.

Substance can be most directly defined as what something is. Man is a substance, a horse is a substance and a rock is a substance. Going in depth of the substance one is introduced to secondary substance which is when something is in essence, for example man, has certain attributes to accentuate a man's individuality. To say a man is just a man is very general and giving these attributes makes the simple man an individual man. 'Man' is a common noun, so it does not refer to a property of the subject but rather the class of which the subject is a member. That which is said of but not in a subject is the predicate term in a subject-predicate sentence which employs the 'is' of identity, rather than of predication. The negative criterion ("neither in a subject nor said of a subject") of the categories tells us only which things are substances. We can know that a particular something is a substance but we have to define what makes this a substance. A substance can receive contraries which alter substances to change, move, grow etc. Individual substances, apart from their accidentals/qualities are simple in essence.

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# Metaphysics of Substance: the Unknown and Unknowable - A Kant's Critique

## **Abstract:**

Kant's idea of Substance cannot be as simple as earlier philosophers were described. Leibniz once wrote, "I believe that the consideration of substance is one of the most important and fruitful points in philosophy." Kant, for all his disagreement with Leibniz, agrees with him about this. The most important passage for understanding Kant's critical period doctrine of substance is the First Analogy in the Critique of Pure Reason. In this paper I wish to examine the First Analogy, with particular attention to the question of what Kant is proposing as the schema of substance. After setting out what I take to be the twofold goal of the First Analogy and what Kant means by 'substance', I will give an interpretation of the argument of the First Analogy. My starting point for constructing this interpretation will be the deservedly influential interpretation given by Arthur Melnick in Kant's Analogies of Experience. Melnick's interpretation will be subjected to criticism, both exegetical and philosophical, and a new interpretation will be offered, partially based on an argument given by Melnick but which, surprisingly, he does not attribute to Kant. I will then turn to focus on Kant's proposal for the schema of substance, arguing that even if Kant can successfully establish a controversial sub conclusion of the First Analogy, that all change is alteration, his schema of substance is inadequate: either he fails to establish that the schema of substance is satisfied by appearances, or he fails give adequate conditions for the applicability of the category of substance.

Keywords: Substance, Knowable, Unknowable, metaphysics, noumena, Phenomena.

## **I. The Twofold Goal of each Analogy**

Each of Kant's Analogies has a twofold goal. The first part of the goal is to give what Kant calls a schema of one of the categories in division III of the Table of Categories, "Of Relation" (A80/B106). By 'schema', Kant means primarily 'conditions for the applicability of a category to appearances':

Obviously there must be some third thing, which is homogeneous on the one hand with the category, and on the other hand with the appearance, and which thus makes the application of the former to the latter possible. This mediating representation must be pure, that is, void of all empirical content, and yet at the same time, while it must in one respect be intellectual, it must in another be sensible. Such a representation is the transcendental schema. (A138/B177)

In the principle itself [the conclusions of the arguments of the Analogies] we do indeed make use of the category, but in applying it to appearances we substitute for it its schema as the key to its employment, or rather set it alongside the category, as its restricting condition, and as being what may be called its formula. (A181/B224) Thus, in the Second Analogy, Kant gives as the schema of the category of cause and effect the following conditions for the applicability of cause and effect: if state  $s_2$  follows from state  $s_1$  according to a rule, apply the concept of cause to  $s_1$  and the concept of effect to  $s_2$ .

Kant, against the rationalists, holds that the concepts he calls categories cannot be applied directly to appearances, the objects that we can have empirical knowledge of. In a famous passage of Meditation II, Descartes says that the piece of wax that he is holding is "perceived by the mind alone": "It is of course the same wax which I see, which I touch, which I picture in my imagination, in short the same wax that I thought it to be from the start. And yet, and here is the point, the perception I have of it is a case of not of vision or touch or imagination - nor has it ever been, despite previous appearances - but of purely mental scrutiny. . . ." Although Descartes does not use the term "substance" in the Meditations until Meditation III, it seems clear that one of the things Descartes would claim to know about the piece of wax by this pure mental perception is that the ball of wax is a substance.

Kant's disagreement with Descartes about our knowledge of substance is a paradigm case of Kant's general disagreement with the rationalists. Kant insists that if we are to apply the categories to appearances, we must have some empirical criteria for their application. According to Kant, Descartes cannot know by pure mental perception that the ball of wax is a substance. If Descartes is to know that the ball of wax is a substance, then he must see that the piece of wax meets certain criteria; and these criteria must be such that we can know only through sensible perception that the ball of wax meets them. These criteria are the schema of substance.

The second part of Kant's goal in each of the Analogies is to provide a transcendental argument for the conclusion that the schema of the category under consideration is indeed universally applicable among appearances, and thus, since satisfaction of the schema suffices for application of the category, that the category is itself applicable to appearances. He attempts to do this by showing that if the schema were not universally applicable among appearances, it would not be possible to have the empirical knowledge of temporal matters that we actually have. Thus the general form of the arguments in the Analogies is the following: if P were not the case, we could not have the empirical knowledge of temporal matters that we do have; but we do have this empirical knowledge; therefore, P; but P entails that the schema of category C is universally applicable among appearances; and if the schema of category C is universally applicable among appearances, then category C is universally applicable among appearances. In the Second Analogy, the argument is as follows (minus all the details that make the argument interesting and controversial): If some events did not follow one another in accordance with rules, we could not have knowledge of the order that two given events occurred in time; we do have such knowledge; therefore, all events follow one another in accordance with rules; but if events follow one another in accordance with rules, then the schema of cause and effect is universally applicable to events; and if the schema of cause and effect is universally applicable to events, then the category of cause and effect is universally applicable to events, i.e., every event has a cause and an effect.

It is this transcendental argument that enables Kant to reject Hume's view that the applicability of the categories (in particular the category of cause and effect) to the appearances can never be known. Hume

maintained that we could never have knowledge of cause and effect through sensible perception, for all we ever can know is that one sort of event has always been followed by another sort of event; but this will not suffice to know that events of the first type cause events of the other, for application of cause and effect to events implies some sort of necessary connection between the two events, and we can never have knowledge of necessity through sensible perception. And since Hume, the arch-empiricist, held that knowledge cannot be had through any means other than through sensible perception, Hume concluded that we can never have knowledge of cause and effect. Kant rejects Hume's skepticism about causation, for Kant holds that there is a schema of the category of cause and effect, and that there is a transcendental proof, from premises that even Hume at his most skeptical would accept, that this schema is universally applicable to events.

## **II. What Kant Means by 'Substance'**

Before examining the argument of the First Analogy and the schema of substance proposed by Kant, we must first ask what Kant means by 'substance'. Officially, Kant declines to give definitions for any of the categories (B108-109), nor does he define 'substance' in the First Analogy, but rough "definitions" of 'substance' can be found at three places in the Critique of Pure Reason. At B149 Kant characterizes substance as "something which can exist as subject and never as mere predicate." At A147/B186, he writes "Substance . . . would mean simply a something which can be thought only as subject, never as a predicate of something else." And at A235/B288 he characterizes substance as "something that can exist as subject only, and not as a mere determination of other things." This definition of 'substance' is somewhat unfortunate in that it involves a use-mention conflation: words and phrases are the only things that can be subjects and predicates, and Kant certainly does not mean that substances are words or phrases. It is even more unfortunate in that it seems to make substantiality relative to a language: I can see no barrier to a language in which statements that are of subject-predicate form in English and other European languages, such as 'This cup is black', are always expressed with what occupies the predicate position in English in the subject position and vice-versa, e.g., 'Blackness is in this cup'. So if we are to take Kant's doctrine of substance with any sort of seriousness, we had better find some other way of formulating the definition of 'substance'.

Many commentators have taken Kant's doctrine about substance to be a doctrine about what it is for a particular to instantiate a property. They see Kant as defining 'substance' as 'thing which can instantiate properties, but which cannot itself be instantiated by anything'. These commentators read Kant's use of the term 'substance' as most commentators read Locke's use of the term. Locke is usually read as meaning 'particular' by 'substance', and as arguing for what some have called the "pincushion theory" about particulars, that particulars somehow "support" the properties that are instantiated in them, as opposed to a

"bundle theory" of particulars, which holds that particulars are "bundles of properties." Whatever the merits of this as an interpretation of Locke's use of the term 'substance' (and I have my reservations), it is prima facie a poor interpretation of Kant's use of the term, for one of the conclusions of the First Analogy is that substances are permanent, existing at all times (A182/B224-5). Now Kant knew perfectly well that shoes and ships and sealing-wax are not permanent entities, and so they interpret Kant as maintaining that these things are not particulars, but properties, which can only exist as instantiated in permanent particulars.

I hesitate to put Kant into such a position and ascribe to him such absurdities, given that an alternative interpretation of his use of the term 'substance' can be found; and one does not have to look far for an alternative interpretation. I will be reading Kant as being within the rationalist tradition in his use of the word 'substance', and interpret Kant as meaning by 'substance' exactly what Descartes and Spinoza meant. Descartes achieves the greatest clarity in his definition of 'substance', in the Principles of Philosophy: "By substance we understand nothing other than that which exists in such a way as to depend on no other thing for its existence." Spinoza, equating as Descartes did conceivability with possibility, defines 'substance' as follows: "By substance I understand that which is in itself and is conceived through itself; in other words, that the conception of which does not need the conception of another thing from which it must be formed." Thus we may read the Cartesian-Spinozist definition of 'substance' as follows:  $x$  is a substance if and only if there does not exist a  $y$  distinct from  $x$  such that  $x$  is ontologically dependent on  $y$ . Anything that is ontologically dependent on something else we may, following Spinoza, call a "mode". For the rationalists and for Kant, this definition entails that properties are modes, since they all hold a particularist theory of properties: there is no such thing as blackness in general, only particular instances of blackness, e.g., the blackness of this cup and the blackness of this pen. If this cup did not exist, the blackness of this cup would not exist. But this definition of 'mode' covers a lot more than properties, although the rationalists are unfortunately not very explicit about this. A hole, for example, is a mode, an ontologically dependent entity, for a hole cannot exist without its "host": if this block of wood did not exist, the hole in it would not exist. But it would be a serious stretch to say that the hole is a property of the block of wood. Most importantly for our consideration of Kant's First Analogy, events are modes, as they are ontologically dependent on the enduring things that "participate" in them. If Socrates had not existed, Socrates' death, an event, would not have occurred.

Why does Kant formulate his definition of substance as he does? I think this can be explained by the fact that the examples of modes, or "determinations" as he calls them, that Kant has in mind are properties and events, and the expressions which seem to refer to properties and events generally occur in the predicates of sentences. If we were not careful about the use-mention distinction, we might say that properties are predicated of particulars, e.g., 'This cup is black', and that events are predicated of enduring entities, e.g.,

'Socrates died in 399 BCE'. It might not even be too much of a stretch to say that holes are predicated of their hosts, e.g., 'This block of wood has a hole'.

### **III. Initial Statement of the Argument of the First Analogy**

Now we are prepared to examine the argument of the First Analogy and the place of the schema of substance within it. In a somewhat compressed form, the argument runs as follows:

- (1) Every change is empirically knowable.
- (2) If there were a change that were not an alteration, then that change would not be empirically knowable.
- (3) Therefore, every change is an alteration.
- (4) If every change is an alteration, then the schema of substance is universally applicable to appearances.
- (5) If the schema of substance is universally applicable to appearances, then the category of substance is universally applicable to appearances.
- (6) Therefore, the category of substance is universally applicable to appearances.
- (7) If every change is an alteration, then there are permanent things.
- (8) Therefore, there are permanent things.

The first thing to note is Kant's technical use of the terms 'change' and 'alteration'. Kant gives an explanation of these terms at A187/B230: "Coming to be and ceasing to be are not alterations of that which comes to be or ceases to be. Alteration is a way of existing which follows upon another way of existing of the same object. All that alters persists, and only its state changes." A change is an event in which something comes to be or ceases to be. If a chair were suddenly to come into existence, or suddenly go out of existence, the event of its coming into existence or going out of existence would be a change. But 'change' does not only apply to the comings to be and ceasings to be of particulars; it also applies to the comings to be or ceasings to be of properties. When an apple ripens, ceasing to be green and coming to be red, this event is a change, for the greenness of the apple ceases to exist and the redness of the apple comes to exist. An alteration is a change that has a participant that persists through, or "survives," the event. Thus the event of the apple's ripening is both a change, for the greenness ceases to be and the redness comes to be, but it is also an alteration, for the apple survives the change. If a chair suddenly came into existence ex nihilo, this event would be a change, but it would not be an alteration, for there would be no participant in the event that exists before and after the event.

### **IV. Melnick's Version of the Argument**

Arthur Melnick's interpretation of the argument of the First Analogy differs from mine in the first two premises. Instead of my premises (1) and (2), Melnick gives the following as the first two premises of the argument:

- (1\*) Every temporal interval between events is empirically determinable (measurable).

(2\*) If every temporal interval between events is empirically determinable, then every change is an alteration.

Melnick thus construes the argument as proceeding from premises concerning the measurability of duration. There is some textual support for this interpretation. Kant says the following in the Introduction to the Analogies (A177/B219):

The three modes of time are duration, succession, and co-existence. There will, therefore, be three rules of all relations of appearances in time, and these rules will be prior to all experience, and indeed make it possible.

Kant seems to be suggesting in this passage that each of the Analogies will deal with one of these "modes of time," giving arguments that empirical knowledge of these modes is possible only if the schema of one of the categories in division III of the Table of Categories is satisfied. Furthermore, the Second Analogy deals with succession in this manner, and the Third Analogy seems to deal with co-existence in this manner. So it seems plausible that the First Analogy should be read as giving an argument that empirical knowledge of duration, i.e., measurement of time intervals between successive events, is possible only if the schema of substance is universally satisfied among appearances; and this is how Melnick interprets the argument.

But there are reasons, both textual and philosophical, to think that the argument of the First Analogy does not fit so nicely into this mold. The first textual reason is that in the text of the First Analogy itself, Kant uses the word 'duration' only once, at A183/B226: "Only through the permanent does existence in different parts of the time-series acquire a magnitude which can be entitled duration." Particularly notable is the fact that Kant does not use the word 'duration' anywhere in the synopsis of the argument added in the second edition of the Critique, at B224-225: in that synopsis, Kant only mentions succession and co-existence. Thus it seems probable to me that the passage in the introduction is a red herring, and that in it Kant was merely trying to justify the fact that there are three Analogies, perhaps because he realized that the Metaphysical Deduction of division III of the Table of Categories is less than satisfactory.

Before going on to other textual reasons, and philosophical ones as well, to think that Melnick's interpretation of the argument is inadequate, it is necessary to unpack premise (2\*), and see what argument Melnick attributes to Kant in support of this crucial premise. Melnick claims that Kant is arguing as follows:

- (i) If a temporal interval between events is empirically determinable (measurable), then there must be a "substratum" for that interval, i.e., an appearance which functions as a clock for the measurement of that interval.
- (ii) If an appearance functions as is a substratum for an interval, then that appearance must persist throughout that interval.
- (iii) If an appearance persists throughout an interval, then all change in that interval is an alteration.
- (iv) Therefore, if every temporal interval is empirically determinable, then all change is alteration.

Now we may see some further textual problems with attributing this argument to Kant. First, this interpretation requires reading Kant's use of 'substratum' in a peculiar way for premisses (i) and (ii). Melnick says the following about Kant's use of the word 'substratum': "That in appearances in terms of which we determine the magnitude of a time interval is, by definition, the substratum of the determination of that interval." But the term 'substratum', in its usual philosophical uses, has nothing to do with measurement. Berkeley's Philonous states that the term refers to something that is "spread under" something else. Its philosophical use is obviously metaphorical in some way, but it is hard to see the appropriateness of such a metaphor as applied to a timekeeping device. Furthermore, Kant often says in the First Analogy that determination(s) of time are "in" this substratum:

All appearances are in time; and in it alone, as substratum (as permanent form of inner intuition), can either coexistence or succession be represented (B224);

. . . All change or coexistence must, in being apprehended, be perceived in this substratum (B225);

. . . The permanent is the substratum of the empirical representation of time itself; in it alone is any determination of time possible. (A183/B226)

If we read 'substratum' as Melnick does, we shall have to read 'in' in each of these cases as 'by means of', an unusual reading of the term, and again one without philosophical precedent.

The degree to which this reading of 'substratum' is strained becomes more apparent when we ask what Kant means by 'determination', in passages such as the following: "Substances, in the [field of] appearance, are the substrata of all determinations of time" (A188/B231). Melnick's reading of the First Analogy requires that we read 'determination' in such passages as 'the act of measuring an interval'. Kant does seem to use 'determination' in such a way, referring to human actions, in one place in the First Analogy:

Our apprehension of the manifold of appearance is always successive, and therefore always changing. Through it alone we can never determine whether this manifold as object of experience, is coexistent or in sequence. For such determination we require an underlying ground which exists at all times. . . . (A182/B225)

But if this is Kant's meaning in this passage, he is not univocal in his use of the word 'determination'. The principle of the First Analogy is stated in A as follows: "All appearances contain the permanent (substance) as the object itself, and the transitory as its mere determination, that is, as a way in which the object exists" (A182). And in the synopsis added in B, Kant writes: "But the substratum of all that is real . . . is substance; and all that belongs to existence can be thought only as a determination of substance" (B225). It seems clear that in these passages Kant is using 'determination' as Spinoza and Descartes used the word 'mode'.

If we read 'determination' in this way (except perhaps for the passage at A182/B225, previously noted), we get a much nicer picture of what Kant means when he says things like All appearances are in time; and in it

alone, as substratum (as permanent form of inner intuition), can either coexistence or succession be represented (B224);

. . . All change or coexistence must, in being apprehended, be perceived in this substratum (B225);

. . . The permanent is the substratum of the empirical representation of time itself; in it alone is any determination of time possible (A183/B226);

Now time cannot be perceived in itself; the permanent in the appearances is therefore the substratum of all determination of time (A183/B226);

. . . Everything, on the other hand, which changes or can change belongs only to the way in which substance or substances exist, and therefore to their determinations (A183-4/B227); and

. . . We ought first to have proved that in all appearances there is something permanent, and that the transitory is nothing but determination of its existence. (A184/B227)

I propose that in these passages, and for the most part throughout the First Analogy, we should read 'determination' as 'mode' (i.e., 'ontologically dependent entity'); we should read 'substratum' as 'that on which a mode is ontologically dependent'; and finally, we should read 'in', whenever something is said to be 'in' a substratum, not as 'by means of', but as Spinoza used the word, meaning 'ontologically dependent on'.

Furthermore, we may note, Melnick's version of the argument for premise (2\*) contains not just one, but two, "non sequiturs of numbing grossness," to use Strawson's phrase. Premise (ii) is clearly false. There is no need for there to be one single entity functioning as a clock and persisting throughout an interval in order to measure that interval. An interval could be measured by a series of clocks that come into and go out of existence during that interval, as long as two conditions are met: (a) at least one of the entities functioning as clocks must exist at any given time interval, and (b) if one of those entities comes into existence during the interval, there must be some temporal overlap between it and some entity that came into existence earlier, to provide for the possibility of "synchronization of the clocks." And premise (iii) is even more obviously false. Why should it follow from the fact that some object *x* persists through interval *I* that every event in interval *I* is an alteration? Every event during *I* in which *x* participates, no doubt, is an alteration, but we have no reason to suppose that *x* participates in every event during *I*.

If a better interpretation of the beginning of the argument of the First Analogy is to be had, one perhaps not entirely free of non sequitur, but at least from non sequitur of numbing grossness, and one that reads 'determination' as 'mode', 'substratum' as 'thing on which a mode is ontologically dependent', and 'in' as 'ontologically dependent on', we should adopt such an interpretation. Fortunately there is such an interpretation, similar to an argument given by Melnick himself but not attributed to Kant.

## **V. Premises (1) and (2): A Different Interpretation**

I will return now to my original formulation of the argument, an adaptation of an argument given by Melnick but surprisingly not attributed to Kant. Premise (1), 'Every change is empirically knowable', is to be

understood as saying that whenever there is a change, i.e., an event that is a coming into existence or a going out of existence, we may know that something has come into or gone out of existence. Premise (2), "If there were some change that was not an alteration, then that change would not be empirically knowable" may then be argued for as follows, by *reductio ad absurdum*.

- (i) Every change is empirically knowable. (Denial of the consequent of (2).)
- (ii) There is an event  $e$  that is a coming into existence of  $x$ , and  $e$  is not an alteration. (Affirmation of the antecedent of (2).)
- (iii) It is knowable that  $x$  comes into existence at time  $t_2$  only if it is knowable that  $x$  did not exist at time  $t_1$ , a time prior to  $t_2$ .
- (iv) It is knowable that  $x$  did not exist at time  $t_1$  only if it is knowable that if  $x$  had existed at  $t_1$ , it would have existed at place  $P$ .
- (v) It is knowable that if  $x$  had existed at  $t_1$ , it would have existed at place  $P$ , only if  $x$  is an ontologically dependent entity, dependent on  $y$ , which was at  $P$  at  $t_1$ .
- (vi) Therefore,  $x$  is an ontologically dependent entity, dependent on  $y$ , which was at  $P$  at  $t_1$ .
- (vii)  $e$ , the coming into existence of  $x$  at time  $t_2$ , is ontologically dependent on  $x$ .
- (viii) Therefore,  $e$  is ontologically dependent on  $y$ .
- (ix) Therefore,  $y$  is a participant in  $e$ .
- (x)  $y$  exists before and after the occurrence of  $e$ .
- (xi) Therefore,  $e$  is an alteration in  $y$ . Conclusion (xi) contradicts premise (ii), completing our *reductio*.

Premise (iii) seems to be obviously true. And premise (iv) seems correct as well; if we did not know where  $x$  would have been had it existed at  $t_1$ , we would have to examine all of infinite space at  $t_1$  to determine that it did not exist. Premise (vii) is supported by a certain plausible principle about the ontological dependence of events, (ODE): an event  $e$  is dependent on an entity  $x$  if and only if  $x$  is a participant in  $e$ . Subconclusion (viii) follows from subconclusion (vi), premise (vii), and the transitivity of ontological dependence. Sub Conclusion (ix) follows from (ODE) and sub conclusion (viii). Premise (x) is true; for by premise (v) we know that  $y$  existed at  $t_1$ , and since  $x$  exists after  $t_2$  (when it comes into existence),  $y$  must exist after ( $t_2$ ), since  $x$  is ontologically dependent on  $y$ .

Premise (v) seems to be the questionable one then. It seems that if we pick a time  $t_1$  close enough to  $t_2$ , we may know that  $x$  would have been in the nearby vicinity of wherever  $x$  was at  $t_2$ , even if  $x$  is not an ontologically dependent entity, provided that we know that there is some upper limit to the speed at which  $x$  could have traveled. There is no need then to examine all of infinite space at  $t_1$  to know that  $x$  did not exist then. We now know, of course, know that there is such a speed, viz. , the speed of light in a vacuum,  $3 \times 10^8$  meters per second. Kant, of course, was not aware of this. We might, however, be able to know that  $x$  came into existence at  $t_2$  even without knowing that it had some maximum speed: if we examined some finite region of space around the place where  $x$  was at  $t_2$  during some interval  $I$  having  $t_2$  as its final instant, and

we know that at no point during I was x in that region, and we know that x cannot jump from place to place instantaneously, we would know that x came into existence at t<sub>2</sub>, and that it did not exist anywhere at t<sub>1</sub>, a time during interval I.

But even if premise (v) in the argument is false, and hence premise (2) in the argument of the First Analogy remains unsupported, we do not have any non sequitur of numbing grossness that we had in Melnick's formulation of the argument. But now we must show that this defense of premise (2) is supported in the text of the First Analogy. (As should be clear, my formulation of the argument as a reductio was merely a matter of convenience. One could clearly argue from premises (i), (iii), (iv), (v), and (ODE) to the conclusion that e is an alteration for any event e.)

Premise (1), which is identical with premise (i), the antecedent of (2), may be taken as implicit in the text. Later, in the Refutation of Material Idealism, and according to some commentators, earlier in the Transcendental Deduction, Kant explicitly argues that all knowledge, even that knowledge of one's own mental states that even Descartes at his most skeptical (the end of Meditation II) and Hume admit, is possible only if we have certain sorts of other knowledge about the external world, including that temporal knowledge that Kant assumes in giving the proofs of the Analogies. Premises (iii), (iv), and (v) are strongly suggested in the following passage toward the end of the First Analogy, where Kant gives his clearest statement of the argument that all change is alteration (A188/B231, comments in brackets added):

If we assume that something absolutely begins to be, we must have a point of time at which it was not [premise (iii)]. But to what are we to attach this point, if not to that which already exists [premise (iv), albeit without mentioning place]? For a preceding empty time is not an object of perception. But if we connect the coming to be with things which previously existed, and which persist up to the moment of this coming to be, this latter must be simply a determination [ontologically dependent entity] of what is permanent in that which proceeds it [premise (v)]. Similarly also with ceasing to be; it presupposes the empirical representation of a time in which an appearance no longer exists [see footnote 22].

I submit then, that this formulation of part of the argument of the First Analogy is well supported by the text.

## **VI. From Alteration to Permanence: Premise (7)**

Before moving to the question of the adequacy of the schema of substance and whether Kant has indeed established that it is universally applicable among appearances (premises (4) and (5)), I wish to take a very brief look at premise (7), which asserts that if every change is an alteration, then there are permanent things. Premise (7) may be easily established with the help of the following two plausible principles:

Grounding of Ontological Dependence (GOD): Every ontologically independent entity is dependent on something which is ontologically independent.

Alteration and Dependence (AD): If  $e$ , the event of  $x$ 's coming to exist or ceasing to exist, is an alteration in  $y$ , then  $x$  is ontologically dependent on  $y$ .

Suppose that all change is alteration. Then everything that changes (comes to exist or ceases to exist) is an ontologically dependent entity, by (AD). But then everything which is ontologically independent does not change, and therefore is permanent. But since there are ontologically dependent things, there are ontologically independent things, by (GOD). Therefore, there are permanent things.

Since we can argue from 'All change is alteration' to 'There are permanent things', it follows that premise (7), 'If all change is alteration, then there are permanent things', is true, provided that (GOD) and (AD) are true.

Kant does not give any argument of this sort in the First Analogy, but it is somewhat suggested in a passage in the Second Analogy where Kant again takes up the question of the permanence of substance. "Since, now, every effect consists in that which happens, and therefore in the transitory, which signifies time in its character of succession, its ultimate subject, as the substratum of everything that changes, is the permanent, that is, substance" (B250). But whether this is the sort of argument Kant had in mind or not, we have seen that Kant's move from every change being an alteration to there being permanent entities is indeed a legitimate one.

## **VII. The Universal Applicability of the Schema of Substance.**

I now wish to look at premise (4), 'If every change is an alteration, then the schema of substance is universally applicable to appearances', and premise (5), 'If the schema of substance is universally applicable to appearances, then the category of substance is universally applicable to appearances'. I will consider two possibilities for what Kant is proposing as the schema of substance. The first proposal I will consider will turn out to be an adequate schema of substance, providing sufficient conditions for the applicability of the category of substance, i.e., making premise (5) necessarily true. As we shall see though, this proposal leaves open the possibility that premise (4) is false, i.e., it is possible that all change be alteration and nevertheless this proposed schema is not satisfied. The second proposed schema will have the opposite problem: it will be necessarily true that if all change is alteration, then this schema will be satisfied; but it will not be the case that this second proposed schema provides sufficient conditions for the applicability of the category of substance, i.e., the proposed schema is not in fact a schema, and premise (5) is not necessarily true.

The first proposal for a schema of substance I wish to look at is suggested in the following two passages:

. . . There must be found in the objects of perception, that is, in the appearances, the substratum which represents time in general, and all change or coexistence must, in being apprehended, be perceived in this substratum, and through relation of the appearances to it. But the substratum of all that is real, that is, of all

that belongs to existence, is substance; and all that belongs to existence can be thought only as a determination of substance. (B225)

For if that in the [field of] appearance which we name substance is to be the substratum proper of all time-determination, it must follow that all existence, whether in past or in future time, can be determined solely in and by it. (A185/B228)

Kant seems to be suggesting in these passages that the key to the schema of substance is the fact that all changes occur in (i.e., have as a participant and are ontologically dependent on) some substance. Now this would enable the schema of substance to be easily stated, if Kant were to adopt Spinoza's thesis that there is only one substance. We could then give the schema of substance, stating sufficient conditions for the applicability of the category, as follows: If every change is an alteration in  $x$ , then  $x$  is a substance. This would entail that there is at most one substance. But Kant clearly does not wish to be committed to Spinozism, for elsewhere he implies that there are many substances, such as in the principle of the Third Analogy: "All substances, in so far as they can be perceived to coexist in space, are in thoroughgoing reciprocity" (B256).

What Kant needs to say, then, if indeed this is his proposal for the schema of substance, is something like 'If  $x$  is one of those things that all change are alterations in, then  $x$  is a substance'. Making anachronistic use of set theory, we might try to state the schema of substance as follows: If  $x$  is a member of some set  $S$  such that every change is an alteration in some member of  $S$ , then  $x$  is a substance. But this will not do either, for it admits too many things as substances. Suppose there is indeed some set  $S$  such that every change is an alteration of some member of  $S$ . It might indeed be the case that every member of  $S$  is a substance, i.e., an ontologically independent entity. But then consider the set  $S^*$ , which is the union of  $S$  and the singleton of some non-substance, such as the redness of this apple. Since  $S$  is a subset of  $S^*$ , and  $S$  is such that every change is an alteration in some member of it, it follows that  $S^*$  is such that every change is an alteration of some member of it. And the redness of this apple is a member of  $S^*$ , and thus the proposed schema claims that this redness is a substance. But of course the redness of the apple is not a substance; this proposed schema is inadequate.

To remedy this, we may use the trick Frege used to define 'ancestor' and state the schema thus: If  $x$  is a member of every set  $S$  such that every change is an alteration in  $S$ , then  $x$  is a substance. (Provided there is such a set; for otherwise the schema will turn out to be vacuously true of everything.) By using this as a schema of substance, we rule out those things that aren't substances, such as the redness of this apple, that fit the previous proposed schema of substance, for the redness of this apple is not a member of every set  $S$  such that every change is an alteration in some member of  $S$ . Furthermore, we may give the following proof that if something satisfies the schema ' $x$  is a member of every set  $S$  such that every change is an alteration in some member of  $S$ ', then  $x$  is indeed ontologically independent, i.e., a substance.

- (i) Assume that there is a set  $S$  such that every change is an alteration in some member of  $S$ , and that  $x$  is a member of every such set, and is therefore a member of  $S$ .
- (ii) Assume, for reductio, that  $x$  is not ontologically independent.
- (iii) There is a  $y$ , not identical to  $x$ , such that  $x$  is ontologically dependent on  $y$ . [from (ii)]
- (iv) There is an change  $e$  that is an alteration in  $x$ . [from (i)]
- (v)  $e$  is ontologically dependent on  $x$ . [from (iv) and (ODE) ]
- (vi)  $e$  is ontologically dependent on  $y$ . [from (iii) and (v), by the transitivity of ontological dependence]
- (vii)  $e$  is an alteration in  $y$ . [By (vi) and (ODE), it follows that  $y$  is a participant in  $e$ ;  $x$  survives, i.e., exists before and after  $e$ , since  $e$  is an alteration in  $x$ ; since  $x$  ontologically dependent on  $y$ ,  $y$  also survives  $e$ , and therefore  $e$  is an alteration in  $y$ .]

Now let  $S^*$  be the union of  $S - \{x\}$  with  $\{y\}$ , that is, the set that is just like  $S$ , except that it does not have  $x$  as a member, and does have  $y$  as a member. ( $S$  itself may or may not have  $y$  as a member.)

- (viii)  $S^*$  is such that every change is an alteration in some member of  $S^*$ . [Every change that is an alteration in  $x$  is an alteration in  $y$ , since we could repeat steps (iv)-(vii) for any change that is an alteration in  $x$ ; and  $S^*$  does not contain  $x$  and does contain  $y$ , but otherwise is just like  $S$ .]

- (ix) Therefore, there is a set, viz.,  $S^*$ , that is such that every change is an alteration in some member of it, and  $x$  is not a member of  $S^*$ . The conclusion of this argument contradicts premise (i), completing the reductio.

Thus anything that satisfies the proposed schema, ' $x$  is a member of every set  $S$  such that every change is an alteration in  $S$ ', is indeed an ontologically independent entity. Furthermore, since we proved in section VI of this paper, in the course of proving premise (7) of Kant's argument, that all ontologically independent entities are permanent, we know that anything satisfying the proposed schema is also permanent. This is a pleasing result, since Kant makes frequent claims in the First Analogy that substances are permanent, even claiming that this is "tautological" (A184/B227).

But all is not well with this proposed schema of substance. For even if we can establish that all alteration is change, we have not thereby established that there is anything satisfying the proposed schema of substance. It is plausible to think that if all change is alteration, then there is at least one set of things such that every change is an alteration of some member of that set. But we have not established that there is anything that is a member of every such set, that is to say, we have not established that the intersection of all such sets is non-empty. To see that we have not established this, consider the following example.

Consider a possible world that consists of nothing more than some masses of matter, where each of these masses has one or more holes in it. Suppose further that these masses of matter are all permanent, and that the holes in them are permanent as well. The only changes that ever occur in this world are changes of shape of the holes. In this world, all change is alteration, and there is at least one set,  $S$ , such that every change is an alteration of some member of  $S$ , viz., the set of all the masses of matter. But there is another set,  $S^*$ ,

such that all changes in this world are alterations in some member of  $S^*$ , viz. , the set of all the holes.  $S$  and  $S^*$  are disjoint, having no members in common, so there is nothing which satisfies the proposed schema of substance: nothing is a member of every set such that all changes are alterations in some member of that set. Or, relating this case to the argument, this shows that premise (4) may well be false. Even if all change is alteration, it does not follow that this proposed schema of substance is satisfied.

One might think now that the trouble is in the interpretation, not in the text to be interpreted. It is in the chapter on schematism where we find the Kant's actual proposal for the schema of substance. There Kant says, "The schema of substance is the permanence of the real in time. . ." (A143/B183). Furthermore, in the First Analogy Kant says, "We can therefore give an appearance the title 'substance' just for the reason that we presuppose its existence throughout all time. . ." (A185/B228). This then, is perhaps the correct formulation of the schema of substance: If  $x$  is permanent, then  $x$  is a substance. This proposal does not fall prey to the problem that the previous proposal did, for we established in section VII that if all change is alteration, then there are some permanent things. So if ' $x$  is permanent' is the schema of substance, then premise (4) will be true: if all change is alteration, then the schema of substance is satisfied.

But this proposed schema falls prey to a different problem. For it does not seem to be an adequate schema, in that we have no guarantee that an entity that is permanent will be ontologically independent. Thus it may well be the case that premise (5) of the argument is false:  $x$  may be permanent, but nevertheless be ontologically dependent. To see that this may well be the case, consider again the possible world in which there are permanent hunks of matter having permanent, albeit changing, holes. Each of the holes is permanent, ex hypothesi; but holes are ontologically dependent entities, dependent on their hosts, and hence not substances. If the major problem with Spinoza's doctrine of substance is the apparent impossibility of there being finite modes, the major problem with Kant's doctrine of substance, if we take permanence as the schema of substance, is that it is impossible for there to be infinite, i.e., permanent, modes.

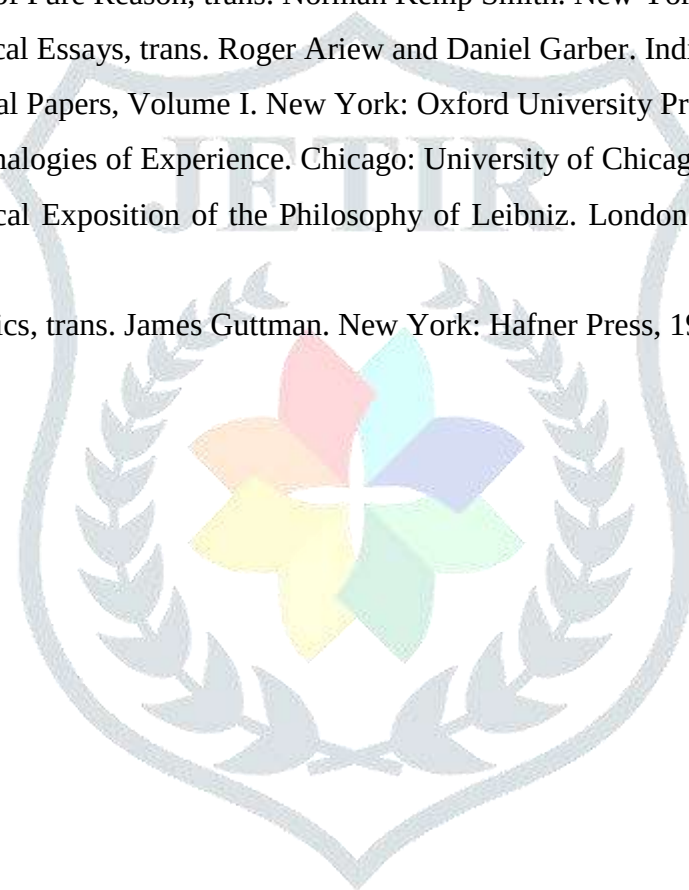
If events were the only modes that a theory of substance needed to classify correctly, then we might think that Kant had succeeded in his task, given that permanence is his proposal for the schema of substance. For it seems reasonable to doubt that there are such things as permanent events or processes, having no beginning and no end, even if every event is participated in by some permanent entity. And the example concerning permanent holes might well be dismissed as arising from an error; holes are not ontologically dependent entities as I have suggested, but parts of material objects, as is argued by David and Stephanie Lewis's Argle. But other cases remain of potentially permanent ontologically dependent entities: colors, shapes, and other intrinsic properties. As long as one does not go so far as to deny that there are such things as colors and shapes, one's theory of substance is required to correctly classify these things as modes. And this cannot be done by Kant's proposal that all and only permanent things are substances.

I have argued herein that the argument of the First Analogy is, although perhaps not sound, at least free from the non sequiturs of numbing grossness that appear in Melnick's interpretation of the argument. But I

have also argued that Kant has failed to give an adequate schema of substance, one that meets the following two criteria: (a) that the schema gives sufficient conditions for the applicability of the category of substance, and (b) that it can be established a priori that the schema is satisfied.

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# 17th Century theory of Substance with special reference to Descartes, Spinoza and Leibniz.

*By* Ramesh Dheeravath

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**Submission ID:** 1463229668

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